Truma Ultrastore water heater operating instructions 90
Truma S 3002 auto space heater 94
Teb fan 96
Truma Ultraheat additional electric heating 97
Truma Combi 4 / Combi 6 99
ALDE Compact 3010 Quick Start Guide..... 108
ALDE Compact 3010 Control Panel - Functions and Symbols 113
Thetford absorption refrigerators 124
Dometic Waeco CB-40 Cool box 136
Cooker 3 burner and hotplate 137
Microwave oven 143
Extractor hood 524 145
Thetford C250CS & C250S cassette toilet 146
TV inlet 150
Windows 152
Softrollo Blinds (Seitz) 152
Windows / Roller Blind Advice 153
Roof lights 154
Mini Heki rooflight 154
Skyview operating instructions 155
Blind and Flyscreen 156
Care of laminate tops, tables, furniture and doors 156
Doors 157
Seat Swivel (Driver / Passenger) 157
Side Lockers 157
Bunk and luton bed safety 157
Tables 157
Table storage 158
12V reading lamp 158
Trigger shower heads 158
Omnistep single step 158
Fiama F45S/TiL side awning 159
Colour reference..... 160
Drop down TV mechanism 160
Cycle racks..... 161
Reverse camera system 161

Equipment Specification

For details on type of equipment fitted in your motorhome, please refer to the Sales Brochure or Dealer.

IMPORTANT

To maximise the use and life of all fitted equipment in your motorhome it is essential that any accompanying manufacturers' literature is read fully. All recommended maintenance and preparation procedures should be followed. The information provided in this handbook is only intended as a guide. If in any doubt consult your manufacturer appointed dealer, particularly before attempting to install EXTRA EQUIPMENT.

Notice: In the interest of safety, replacement parts for an appliance shall conform to the appliance manufacturer's specifications and should be fitted by them or their authorised agent.

TRUMA ULTRASTORE WATER HEATER OPERATING INSTRUCTIONS

Attention: Before using for the first time, it is essential to flush the entire water supply through with clean warm water. Always mount the cowl cover when the water heater is not being operated! Drain the water heater if there is a risk of frost!

There shall be no claims under guarantee for damage caused by frost!

When connecting to a central water supply (rural or city connection) or when using more powerful pumps, a pressure reducer must be used which prevents pressures of greater than 2.8 bar occurring in the Ultrastore.

Filling the Truma Ultrastore with water

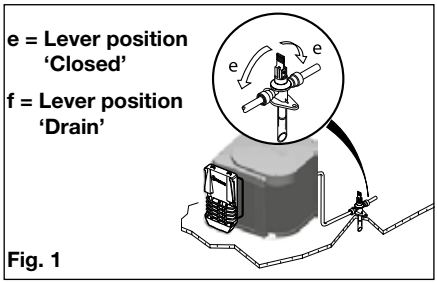


Fig. 1

1. Check that the drain valve in the cold-water intake is closed. Lever should be in the horizontal position (e).
2. Open the hot tap in the bathroom or kitchen with pre-selecting mixing taps or single lever fittings set to hot.
3. Switch on power for water pump (main switch or pump switch). Leave the tap open to let air escape while the water heater is filling. The heater is filled when water flows out of the tap.

   Note: residues of frozen water can prevent filling if there is a frost. The water heater can be defrosted by switching on the heater for a short period (max 2 mins). Frozen pipes can be defrosted by heating the room.

Note: If just the cold water system is being used, without water heater, the heater tank is also filled up with water. Therefore, order to avoid damage through frost, the water contents must be drained by opening the drain valvewhen the system is no longer in use.

Draining the water heater

1. Disconnect power for water pump (main switch or pump switch).
2. Open hot water taps in bathroom and kitchen.
3. Open safety/drain valve: Lever in vertical position, (Fig. 1) position (f).
4. The water heater is now drained directly to the outside via the safety/drain valve. Check that the water contents have been completely drained (10 litres).

Gas operating instructions

Attention: Never operate the water heater without water in it!

1. Remove cowl cover.

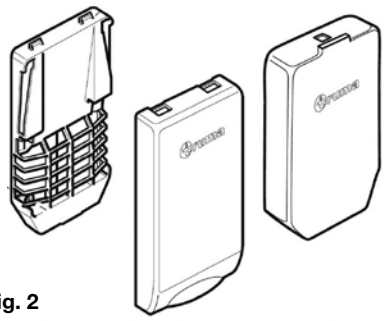
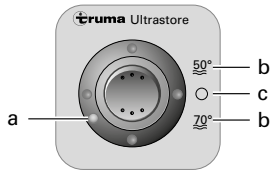


Fig. 2

2. Open gas cylinder and open the gas shut off valve at the manifold.
3. Turn on the heater by moving the central rocker switch to the 50ºC or 70ºC position as desired. (Fig 3).

Fig. 3



a = Red LED “Failure”

b = Water heater “On” 50 °C or 70 °C

c = Water heater “Off”

4. After 5 seconds clicking sound will be heard from water heater, as boiler attempts to light

   Outer collar (a) in control module will turn Red if boiler fails to light - If boiler does fail to light, turn switch back to central position (c), wait 5 minutes, and then repeat step 3.

5. If there is air in the gas supply line, it may take up to a minute before the gas is available for combustion. If the appliance switches to “Failure” during this period, switch off the appliance - wait 5 minutes - and switch on again!

Switching off (gas operation)

Switch off the water heater by moving the rocker switch to the central position. (Fig 3).

Drain the water heater if there is a risk of frost!

If the water heater is not to be used for a longer period, mount cowl cover and close the heater gas shut off valve at the manifold.

There shall be no claim under guarantee if this point is not observed.

Always remove the cowl cover prior to operating the water heater!

Red indicator lamp “Failure”

The red indicator lamp (d) lights up if there is a failure.

The reason for such an indication is, for example, no gas available or air in the gas supply system, triggering of the excess temperature monitor etc. To unlock, switch off the appliance, wait 5 minutes, and switch on again.

In event of faults, always contact the Truma Service on Tel: 01283 586020.

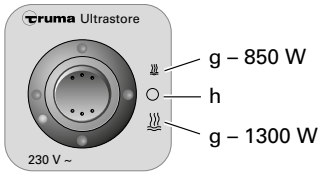
Electrical Operating Instructions

1. Ensure that the heater tank is full of water before operating the unit on electric power.
2. Turn on the electric heating element by operating the water heater switch on the power supply unit. See page 66
3. At the Ultrastore control (Fig 4.), move the rocker switch from the central off position (h), to either 850W or 1300W (g). The 850W

setting will take longer to heat the water, but less power than the 1300W setting.

4. Once a setting has been selected, the electric element within the water heater will turn ON and OFF automatically, to aim to regulate the water temperature at 70°C. As long as there is a suitable mains supply present, and the water system is primed, there is no requirement to switch the water heater 230V element off.

Fig. 4



g = Water heater 'on' 850W or 1300W

h = Water heater "Off"

Note: The water temperature cannot be selected, automatic temperature limitation at approx. 70°C. For a faster heating up period the appliance can be simultaneously operated with gas and electrical power.

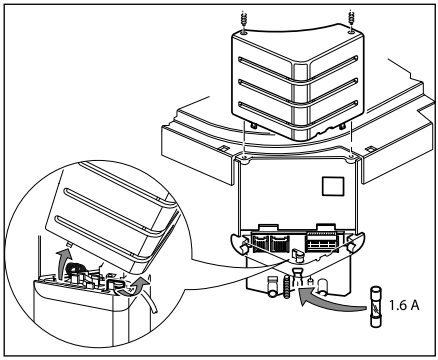
The electrical heating rod is fitted with an excess temperature cut-out. In the event of a fault, switch off at the operating element. Check water content, refill if required (close drain valve). Wait 10 minutes, then switch on again.

Maintenance

We recommend the Truma system care set for cleaning, disinfecting and looking after the boiler. Other products – in particular products containing chlorine – are unsuitable.

To avoid infestation by micro-organisms, the water content must be heated to 70 °C at regular intervals. Clean the device and the ventilation slits with a dry and fluff free cloth.

Fuses



The water heater 12 V fuse is on the electronic control unit on the water heater.

Note: Only replace the miniature Fuse on the p.c.b. with a fuse of the same type: 1.6 A, EN 60127-2-3 (slow action). If there is a defect in the electronics, return the control p.c.b. well padded. If you fail to pack it correctly the guarantee shall no longer be valid. Only use original Truma Ultrastore control p.c.b.'s as spare parts!

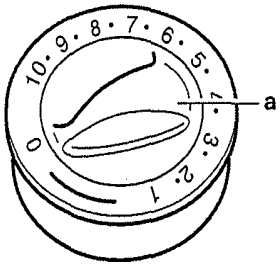
SYMPTOM	CAUSE	RECTIFICATION
Gas operation		
When switching on, the heater does not operate.	• No 12 V supply voltage.	• Check the power supply (operation voltage min. 10.5 V).
		• Check the water heater fuse (refer to mainanance “Fuses”).
	• Window open.	• Close any windows above the cowl.
When switching on, the heater does not operate and the red lamp lights up after approx. 30 secs.	• Cowl cover fitted.	• Remove cowl cover and / or clear any obstruction.
	• No gas supply.	• Check gas valves and gas bottle.
	• Incorrect gas pressure.	• Check gas valves and gas bottle.
	• Air in the gas supply.	• To unlock (and purge air), switch off the appliance, wait 5 minutes, and switch on again.
Heater operates for a prolonged time and then the red lamp lights up.	• Over temperature thermostat operated.	• Check water content, refill if required (close drain valve).
		• To unlock, switch off the appliance, wait 5 minutes, and switch on again.
Electrical operation		
When switching on, the heater does not operate.	• No 230 V supply voltage.	• Connect the motorhome to the site supply and / or check residual current circuit breaker.
	• Over temperature thermostat operated.	• Check water content, refill if required (close drain valve).
		• The electrical heating element is fitted with an excess temperature cut-out. In event of a fault, switch off at the control panel, wait 10 minutes, then switch on again.
	• Too slow warm-up in position 850 W	• Please contact the Truma Service.
Water supply		
Water drips from the safety/ drain valve.	• Water pressure to high.	• Check water pressure (max. 2.8 bar), use a pressure reducer when connected to central water supply.
When opening the cold water tap, hot water tap comes out.	• Hot water flows back through the cold water supply.	• Fit a no-return valve in the cold water supply (refer to installation instructions “Water connection”).

If fault persists please contact the nearest Truma Service (see Truma Service Booklet or www.truma.com).

TRUMA S 3002 SPACE HEATER

Models with Manual Piezo Ignition: Lighting Instructions

1. Turn on gas cylinder and open the shut off valve at the manifold.
2. Turn control knob (a) to thermostat setting 1 - 10 and press it down as far as the stop. At the same time keep operating the piezo ignitor rapidly until the flame ignites.



3. Keep the control knob pressed down for a further 10 seconds to allow the safety pilot to operate.
4. Observe through the inspection window for a further 10 seconds so as to check that the flame has not been extinguished due to air in the line (caused by a change of gas cylinder).

Warning: Wait for 2 minutes before re-igniting, otherwise risk of misfiring! This also applies if a working heater goes out and has to be re-lit.

If air has got into the gas line, it may take up to two minutes before gas is available for combustion. During this period, the operating handle should be kept pressed down and the pressure igniter constantly actuated until the flame appears.

Models with Automatic Ignition: Lighting Instructions

Before using the heater for the first time, ensure that a battery has been inserted (see “Changing the battery on page 96”).

1. Turn on gas cylinder and open the shut off valve at the manifold.
2. Turn control knob (a) to thermostat setting 1 - 10 and press it down as far as the stop. Ignition takes place automatically (ignition sparking audible) until the flame ignites. Keep the control knob pressed down for a further 10 seconds to allow the safety pilot to operate.

Warning: In the event of a fault: always wait 2 minutes before attempting to reignite!

If the flame goes out again, re-ignition occurs immediately during the closing time of the safety pilot (approx. 30 seconds).

If there is no flame, the automatic ignitor continues to operate until the control knob (a) is switched to “0”.

If there is air in the gas supply line, it can take up to two minutes until there is gas available for combustion. During this time hold the control knob down until the flame lights.

Thermostat

Set the required room temperature at the control knob (numbers 1-10). For an average room temperature of approx. 22°C we recommend setting:

3-5 Without the Trumavent Fan (switched on)

4-8 With the Trumavent Fan

Switching Off

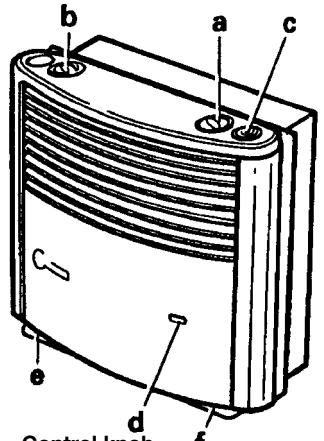
Set control knob to “0”. If turning off for a long period of time, close the shut off valve at the manifold. Close valve of gas cylinder.

Important Operating Notes

1. If the gas supply line is filled with air, it may take up to a minute before the gas becomes available for combustion. During this time depress the control knob and continuously operate the Piezo ignitor until the flame ignites.
2. You will have to find out the exact thermostat setting yourself, depending on how much heat you need.
3. Repairs are only to be carried out by a competent service engineer.

Attention: A new O-ring must always be installed after dismantling the exhaust duct.

4. Any alteration to the appliance (including exhaust duct and cowl) or the use of spare parts and accessories, which are important to the function of the heater and which are not original Truma parts, as well as the non-observance of the installation and operating instructions, will lead to the cancelling of the guarantee and exclusion of liability claim.



a = Control knob
b = Integrated control panel for Trumavent fan TEB
c = Piezo ignitor or automatic ignitor
d = Flame observation window
e = Name plate (remove casing)
f = Thermostat probe
In the case of left-handed installation, the parts are arranged on the other side.

5. During the initial operation of a brand new appliance, a certain amount of fumes and a slight smell may be noticed for a short while. Remedial action is to immediately run the heater at maximum output and to ensure adequate room ventilation.
6. In winter, before switching on the heater, remove all snow from the cowl.
7. Inspect the exhaust duct and all connections at regular intervals and always whenever there is a blow back (misfire). It is essential that the exhaust duct is installed so that it slopes upwards over its whole length and is securely fixed with several clamps. Never place any object on the exhaust duct, since this could result in damage. The exhaust duct connection to both the heater and the cowl must be firm and well sealed.

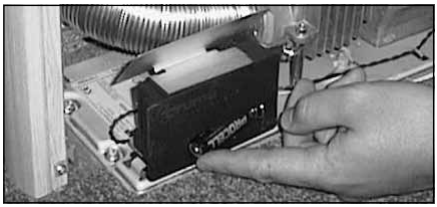
   Do not operate heaters with incorrectly fitted or damaged exhaust ducts.
8. Never allow the warm air outlet on the heater to be obstructed in any way. For instance never hang washing on or in front of the heater to dry. Misusing your heater in this way could cause serious damage from overheating. Do not place flammable objects near the heater. Please follow these guidelines in the interest of your own safety.
9. If the burner makes an unusual noise or if the flame lifts off while burning, it is likely that the regulator is faulty and it is essential to have it checked.
10. Cleaning (with switched off appliance): It is recommended that at least once a year, before the heating season starts, you remove any dust that has collected on the heat exchanger base plate.

Changing of batteries

Changing the Batteries on the Automatic Ignitor

Only change the batteries with the heater switched off.

Always insert new batteries at the beginning of the heating season.



Remove front of heater retaining screw, located through centre of black grill. Unclip front of heater, slide up battery cover to reveal battery. Change the batteries. Observe plus/ minus.

Only use temperature resistant (+70°C), leak-proof Mignon round cells (LR 6, AA, AM 3, Art. no. 30010-23600). Other batteries could lead to malfunctions!

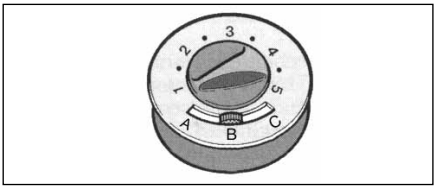
WARNING: Do not cover or obstruct the front of the fire as this can ignite and/ or divert heat downwards onto the floor coverings and cause permanent damage or fire.

TEB FAN

Always observe the operating instructions prior to starting!

The vehicle owner is responsible for the correct operation of the appliance.

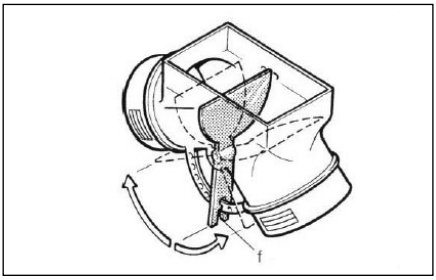
Repairs are only to be carried out by a qualified person



a = Manual control
(e.g. for ventilation) Adjust desired output at the control knob.

b = Off
(or automatic operation/ heating with heaters Trumatic S 3002 K and S 5002 K)

c = Automatic operation
(Heating) The output steadily adjusts to the respective heat emission of the heater. The maximum output can be limited at the control knob, as required. The regulating between this value and slow running is carried out automatically.



The quantity of air can be individually adjusted at the air flap (f), for warm air distribution.

In centre position 50% of the warm air is distributed to each outlet.

If the air output drops or the operating noise increases, the fan impeller wheel may be severely soiled.

Note: The motorhome control panel, situated above the entrance door must be switched on for the fan to operate. See page 66

Cleaning

(With switched off appliance!) We recommend removing dust which has collected on the heat exchanger and base plate of the heater and on the impeller wheel of the Trumavent fan, once a year before the heating season starts. Clean the impeller wheel carefully using a brush or tooth brush.

TRUMA ULTRAHEAT ADDITIONAL ELECTRIC HEATING

For Trumatic S 3002 heaters

Function description

Truma-Ultraheat is an additional 230V electric heater to the LPG heater models Trumatic S 3002/S 5002.

It is possible to operate the heater on gas only, electricity only or simultaneously with electricity and gas.

When operating simultaneously on electric and gas the electric unit will switch on and off to prevent over heating.

When operating on electric only we recommend that the fan control is set at position 3 on manual or automatic operation.

The electric heater can also be operated without the Trumavent fans.

WARNING: Surfaces become hot in use, guards provided do not give full protection to the young or elderly.

Operating instructions

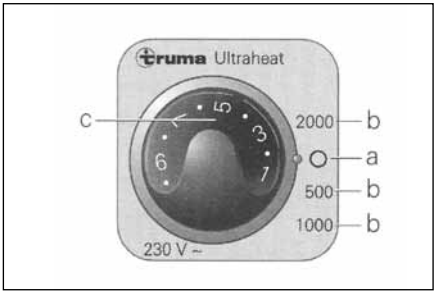
Before operating the heater for the first time it is essential to observe the operating instructions, enclosed with the heater.

Control panel with thermostat

a = Rotary switch “Off”

b = Rotary switch “On”
power settings:
500 - 1000 - 2000 W

c = Rotary control knob for room temperature (illuminated by green indicator lamp “operation”)



Switching On

Turn on the electric heating element by operating the space heater switch on the power supply unit. See page 66.

1. To switch on, turn the rotary switch to the desired output level (b).
2. Set rotary control knob (c) to the desired room temperature.

The thermostat setting on the operating element (1-9) must be determined individually depending on the heating requirement and the type of vehicle. For an average room temperature of about 23°C, we recommend a thermostat setting of about 6 - 8.

BLOWN AIR HEATING

The electric heater can also be operated without the Trumavent fans.

If the heater is operated simultaneously with electricity and gas, the electrical unit will switch itself off before overheating occurs as a result of the stronger gas burner.

Switching off

Switch the heating system off at the rotary switch (a).

Important operating notes

1. Repairs may only be carried out by a qualified LPG engineer.
2. The heater's hot air outlet should under no circumstances be blocked. Never hang clothes or similar in front of or on top of the heater to dry. This could cause serious damage to the heater as a result of overheating. Do not place inflammable materials near the heater! Please observe these instructions for your own safety.
3. The performance of the room thermostat will be affected if temporarily covered or obstructed
4. When operating a brand-new heater for the first time (or after it has been idle for a lengthy period) you may temporarily notice a slight smoke and smell. We advise running the heater at full power and thoroughly ventilating the room.
5. Any modifications to the appliance or the use of spare parts and accessories important for operation which are not original Truma parts, of non-observance of the instructions for installation and use will result in the guarantee becoming invalid and no liability will be assumed.

   Furthermore the approval for operating the appliance will become invalid and in some countries also the approval for operating the vehicle.

The mains element on the space heater is designed for supplementary heating. It is not recommended to run along side the gas for prolonged periods of time.

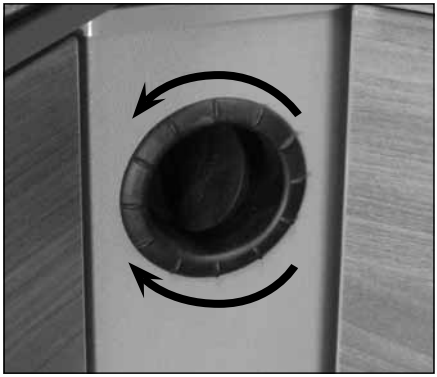
Technical Data

Power supply:	230 V ~, 50 Hz
Power consumption at power setting:	500 W: 2.2 A 1000 W: 4.5 A 2000 W: 8.5 A
Weight:	approx 2kg

Butterfly outlets

The butterfly plate may be opened or closed to control the quantity of air and may also be twisted around to control direction.

For uniform distribution, outlets nearest the heater should be closed more than those further away.



Blown air

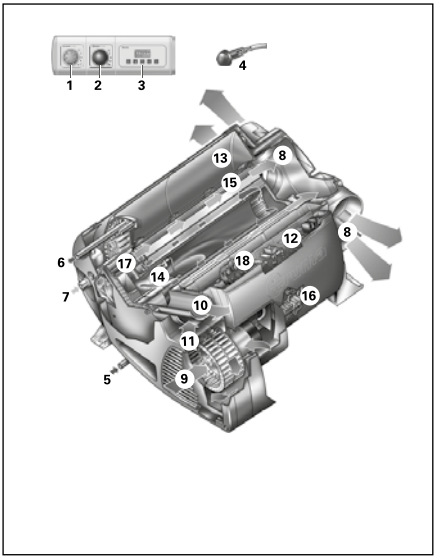
The air ducting outlets are generally of the butterfly type and may be opened or closed by adjusting the butterfly valves. Twisting the disc in its housing directs the flow in the direction required.

One outlet on each leg of the air ducting layout must be kept open at all times. Under no circumstances should the air ducting outlets be blocked.

Cleaning

(with switched off appliance!) We recommend removing dust which has collected on the heat exchanger and base plate of the heater and on the impeller wheel of the Trumavent fan, once a year before the heating season starts. Clean the impeller wheel carefully using a brush or tooth brush.

Truma Combi 4 / Combi 6



1 Control panel
2 Power selector switch
3 Time switch ZUCB (Accessories)
4 Room temperature sensor
5 Cold water connection
6 Hot water connection
7 Gas connection
8 Hot air outlets
9 Recirculated air intake
10 Waste gas discharge
11 Combustion air infeed
12 Electronic control unit
13 Water container (10 litres)
14 Burner
15 Heat exchanger
16 Power electronics
17 Heating elements 230 V
18 Overheating switch 230 V

Function description

The liquid gas heater Combi E is a warm-air heater with integrated hot water boiler (10 liter volume). The burner operates fan-supported, which ensures trouble-free function even when on the move. The unit also has heating elements for electrical operation.

In winter operation the heater can be used to heat the room and simultaneously warm water. If only warm water is required, select summer operation.

3 different options are available for operating the unit.

– gas operation only Propane / Butane for autonomous use

– electrical operation only 230 V for stationary use on camp sites

– or gas and electrical operation – mixed operation only possible in winter mode.

Winter operation

In winter operation, the unit automatically selects the required power setting according to the temperature difference between the temperature set on the control panel and the current room temperature. When the boiler is filled, the water is automatically heated as well. The water temperature depends on the selected operational mode and the heater output.

All 3 energy selection options can be used for winter deployment.

With gas operation the unit automatically selects the output level that is required.

Depending on the fuse protection at the camping site, power of 900 W (3.9 A) or 1800 W (7.8 A) can be manually selected for electrical operation.

If more output is required (e.g. heating up or low outside temperatures) gas or mixed operation should be selected so that enough heating power is always available.

With mixed operation, 230 V electrical operation is preferred if the power requirement is low (e.g. for maintaining the room temperature). The gas burner is not enabled until the power requirement is higher, and is the first to switch off during heat-up operations.

Summer operation (boiler operation only)

Gas operation or 230 V electrical operation is used for hot water preparation. The water temperature can be set to 40 °C or 60 °C.

With gas operation the water is heated at the lowest burner setting. Once the water temperature is reached, the burner switches off.

Depending on the fuse protection at the camping site, power of 900 W (3.9 A) or 1800 W (7.8 A) can be manually selected for electrical operation.

Mixed operation is not possible. With this setting the unit automatically selects electrical operation. The gas burner is not enabled.

Repairs may only be carried out by an expert

Guarantee claims, warranty claims and acceptance of liability will be ruled out in the event of the following:

– modifications to the unit (including accessories),

– modifications to the exhaust duct and the cowl,

– failure to use original Truma parts as replacement parts and accessories,

– failure to follow the installation and operating instructions.

It also becomes illegal to use the appliance, and in some countries this even makes it illegal to use the vehicle.

During the initial operation of a brand new appliance (or after it has not been used for some time), a slight amount of fumes and smell may be noticed for a short while. It is a good idea to heat the device up several times in summer operation (60 °C) and to make sure that the area is well ventilated.

Heat-sensitive objects such as spray cans or flammable liquids may not be stored in the same compartment where the heater is installed because, under certain conditions, this area may be subject to elevated temperatures.

Important operating notes

The integrity and tight fit of the exhaust gas double duct must be checked regularly, particularly at the end of long trips. Also check the mounting of the appliance and the cowl.

Following a blow-back (misfire) always have the exhaust gas system checked by an expert!

Always keep the cowl for the exhaust duct and combustion air intake free of contamination (slush, ice, leaves etc.).

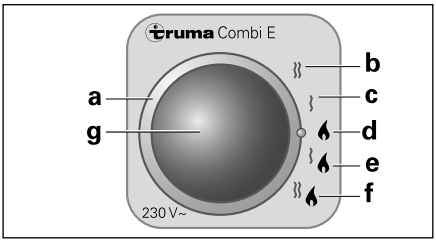
The hot air outlets and the recirculated air intake openings must be free so that the unit does not overheat. The integrated temperature limiter blocks the gas supply when the unit becomes too hot.

Operating Instructions

Always observe the operating instructions and “Important operating notes” prior to starting! The vehicle owner is responsible for the correct operation of the appliance.

Before using for the first time, it is essential to flush the entire water supply system through with clean water. If the heater is not being used, always drain the water contents if there is a risk of frost. There shall be no claims under guarantee for damage caused by frost!

Power selector switch



a = Power selection rotary switch

b = Electric operation 230 V, 1800 W

c = Electric operation 230 V, 900 W

d = Gas operation

e = Mixed operation* (900 W gas and electrical operation)

f = Mixed operation* (1800 W gas and electrical operation)

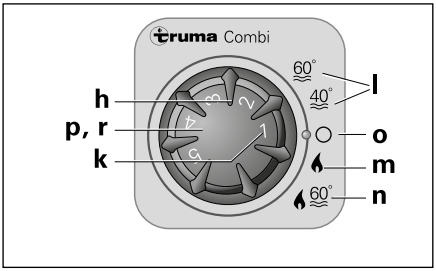
g = Yellow LED on = “Electrical operation”

* Winter mode only!

In summer mode the unit automatically selects electric operation at the preselected electrical power of 900 W or 1800 W.

Switching on the electric heating elements as well does not increase the maximum heating power.

Control panel



h = Rotary switch for room temperature (1 – 5)

k = green LED lit “Operation” green LED blinking “after-running” is active in order to reduce the unit’s temperature

l = Summer operation (water temperature 40 °C or 60 °C)

m = Winter operation (heating without water temperature monitoring or with drained water system)

n = Winter operation (heating with water temperature monitoring)

o = Rotary “Off” switch

p = yellow LED lit “Boiler heat-up phase”

r = red LED lit, red LED blinking “Failure”

The LEDs are visible only when the unit is switched on.

Note: The motorhome control panel, situated above the entrance door must be switched on for the combi boiler to operate. See page 66

Room thermostat

To measure the room temperature, the room temperature sensor (See page 99)is fitted to the furniture. The exact location is determined by the layout of the vehicle.

The thermostat setting on the control panel (1 – 5) must be determined individually depending on the heating requirement and the type of vehicle. For an average room temperature of about 23 °C, we recommend a thermostat setting of about 4.

Taking into operation

Heating is possible without restrictions with gas, electrical and mixed operation, with or without water.

Check to make sure the cowl is unobstructed. Be sure to remove any covers that may be present.

For operating on gas turn on gas cylinder and open the shut off valve at the manifold.

For operating on electric operate the water heater switch on the power supply unit. See page 65

Summer operation (boiler operation only)

Select gas or electrical operation using the power selector switch. Illumination of the yellow LED (g) on the power selector switch indicates that the unit is operating with 230 V.

Mixed operation (gas and electrical) is not possible in summer mode. With this setting the unit automatically selects electrical operation with a preselected power setting of 900 W or 1800 W.

Move the rotary switch on the control panel to position (I – summer operation) 40 °C or 60 °C. The green (k) and yellow (p) LEDs light up.

When the selected water temperature is reached (40 °C or 60 °C) the heater shuts off and the yellow LED (p) goes off.

Winter operation

- **Heating with water temperature monitoring**
  Select gas, electrical or mixed operation using the power switch. Illumination of the yellow LED (g) on the power selector switch indicates that the unit is operating with 230 V. Move rotary switch on control panel to operating position (n). Set the rotary switch (h) to the desired thermostat setting (1 – 5). The green LED (k) for operation is lit and simultaneously indicates the position of the selected room temperature. The yellow LED (p) indicates the water‘s heat-up phase.

  The device automatically selects the required power setting in accordance with the temperature difference between the temperature selected on the control panel and the current room temperature. When the room temperature selected on the control panel is reached, the heater switches back to the smallest setting and heats the water to 60 °C. Once the water temperature is reached, the heater switches off and the yellow LED (p) goes out. The warm air fan can continue to run in order to cool the unit (after-run).
- **Heating without water temperature monitoring**
  Select gas, electrical or mixed operation using the power switch. Illumination of the yellow LED (g) on the power selector switch indicates that the unit is operating with 230 V. Move rotary switch on control panel to operating position (m). Turn the rotary switch (h) to the desired thermostat setting (1 – 5). The green LED (k) for operation is lit and simultaneously indicates the position of the selected room temperature. The yellow LED (p – water‘s heat-up phase) will be lit only when the water temperature is below 5°C! The device automatically selects the required power setting in accordance with the temperature difference between the temperature selected on the control panel and the current room temperature. Once the room temperature selected on the control panel has been reached, the heater switches off. The warm air fan continues to run at slow speed until the outgoing air temperature (on the unit) has fallen to 40°C or less.
  If the boiler is filled, the water will automatically be heated at the same time. The water temperature is then dependent on the heating output being given off, and the duration of heating required to reach the desired room temperature.
- **Heating with drained water system**
  Select gas or electrical operation using the power selector switch. Illumination of the yellow LED (g) on the power selector switch indicates that the unit is operating with 230 V. Move rotary switch on control panel to operating position (m). Turn the rotary switch (h) to the desired thermostat setting (1 – 5). The green LED (k) for operation is lit and simultaneously indicates the position of the selected room temperature. The yellow LED (p) will be lit only when the temperature of the unit is below 5°C!
  Depending on the operating mode, the unit will automatically select the required power level according to the temperature difference between the setting on the control panel and the current room temperature. Once the room temperature selected on the control panel has been reached, the heater switches off. The warm air fan continues to run at slow speed until the outgoing air temperature (on the unit) has fallen to 40°C or less.

Switching off

Switch off heater at control panel using rotary switch (position o). The green LED (k) goes off.

If the green LED (k) blinks after switching off, then the unit‘s after-running is active in order to reduce the unit‘s temperature. This will end after a few minutes and the green LED (k) will go off.

Always drain water contents if there is a risk of frost! If the appliance is not to be used for a prolonged period, close the gas shut off valve at the manifold.

Gas operation fault

If a fault occurs during gas operation the red LED (r) on the control panel illuminates.

Please consult the Trouble-Shooting list for possible causes.

A reset (fault reset) is carried out by switching off, waiting until all LED’s on the control panel have stopped flashing, and then switching the heater on again.

Electrical operation fault

If a fault occurs during electrical operation the yellow indicator lamp (g) on the power selector switch goes off.

Possible causes can be found in the troubleshooting list.

If the 230 V power supply is interrupted for just a brief period of approximately 1 second during operation, the heater will subsequently resume as normal.

Filling the water heater

Switch on power for water pump (main or pump switch).

Open hot water taps in kitchen and bathroom, (set preselecting mixing taps or single-lever fittings to “hot”). Leave the fittings open for as long as it takes for the boiler to displace the air and fill up, and the water to flow without interruption.

If just the cold water system is being operated, without using the water heater, the heater tank also fills up with water. To avoid frost damage, the boiler must be drained through the drain valve, even if the boiler was not operated.

When connecting to a central water supply (rural or city mains), a pressure reduction valve must always be installed to prevent pressures above 2.8 bar from developing in the water heater.

Draining the water heater

Switch off power to water pump (main or pump switch).

Open hot water taps in kitchen and bathroom.

In order to check the water that is flowing out, place an appropriate container (capacity 10 litres) beneath the drain valve.

Open the drain valve which is situated next to the boiler by lifting the yellow handle into the vertical position.

Check whether all of the water in the boiler (10 itres) has been drained into the container via the drain valve.

There shall be no claims under guarantee for damage caused by frost!

Maintenance

Only original Truma parts may be used for maintenance and repair work! Materials in the device which come into contact with water are suitable for use with drinking water (see manufacturer‘s declaration: www.truma.com / downloads / manufacturer‘s declaration).

Bio-film, deposits and limescale must be removed using chemicals to protect the unit from infestation by microorganisms.

Only chloride-free products must be used in order to prevent damage to the unit.

The effectiveness of the use of chemicals to combat microorganisms in the unit can be increased by heating the water in the boiler to 70 °C at regular intervals.

Move power selector switch to gas operation (d) to do this.

Move the rotary switch on the control panel to position (I – summer operation) 60 °C. The green (k) and yellow (p) LEDs light up.

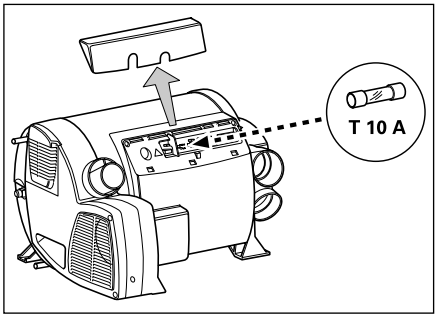
Once the water in the boiler has reached a temperature of 60 °C, the burner will switch off and the yellow LED (p) will go out. The unit must stay switched on for at least 30 minutes and no warm water may be removed. The residual heat in the heat exchanger will heat the water up to 70 °C.

Fuses 12 V

The fuse is in the electronics beneath the connection cover.

Replace the unit's fuse only with an identical fuse.

Device fuse: 10 A – slow – (T 10 A)



Fuses 230 V

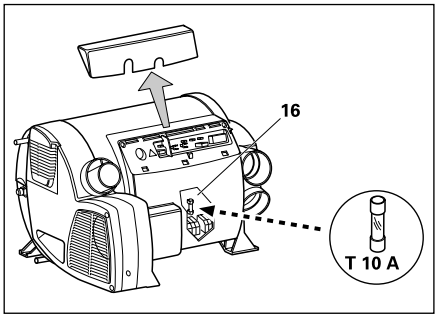
The fuse and the power supply lines must only be replaced by an expert!

The unit must be disconnected from the mains

(all poles) before opening the electronic housing lid.

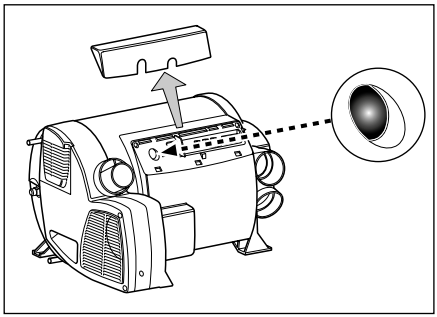
The fuse is in the power electronics (16) beneath the electronic housing lid.

This fine fuse must always be replaced with a fuse of the same type: 10 A, slow, interrupting capacity "H".



Overheating protection 230 V

The 230 V heating facility has a mechanical overheating switch. If the 12 V power supply is interrupted during operation or during the after-run period, for example, the temperatures within the unit could activate the overheating protection.



To reset the overheating protection, allow heater to cool, remove connection cover and press red reset button.

Technical data

determined in accordance with EN 624 or Truma test

Device category

I3 B/P in accordance with EN 437

Type of gas: Liquid gas (propane / butane)

Operating pressure: 30 mbar (see type plate)

Water contents: 10 litres

Heating up time from approx. 15° C to approx. 60° C

Boiler approx. 20 minutes (measured according to EN 15033) Heater + boiler approx. 80 min.

Water pressure: max. 2.8 bar

Rated thermal output (automatic output levels)

Combi 4 E: 2000 W / 4000 W

Combi 6 E: 2000 W / 4000 W / 6000 W

Electrical operation

Combi 4 E / Combi 6 E: 900 W / 1800 W

Mixed operation (gas and electrical)

Combi 4 E: max. 3800 W

Combi 6 E: max. 5800 W

Gas consumption

Combi 4 E: 160 – 320 g/h

Combi 6 E: 160 – 480 g/h

Readiness-heat power requirement

Combi 4 E / Combi 6 E:

Gas operation 5.2 g/h

Air delivery volume (free-blowing without hot-air pipe)

Combi 4 E: with 3 hot-air outlets max. 249 m^3/h

with 4 hot-air outlets max. 287 m^3/h

Combi 6 E: with 4 hot-air outlets max. 287 m^3/h

Current input at 12 V

Combi 4 E: Short-term max. 5.6 A (average power consumption 1.1 A)
Combi 6 E: Short-term max. 5.6 A (average power consumption 1.3 A)
Heating up of boiler: 0.4 A
Stand-by: 0.001 A
Heating element FrostControl (optional): maximum 0.4 A

Current input of 230 V

3.9 A (900 W) or 7.8 A (1800 W)

Troubleshooting

Fault	Cause	Rectification
After switching on (winter and summer operation) none of the LEDs are lit.	- No operating voltage. - Device fuse or vehicle fuse defective.	- Check 12 V battery voltage, charge if necessary. - Check all electrical plug connections. - Check the unit or vehicle fuse and replace if necessary (see fuses).
The green LED comes on when the unit is switched on, but the heater does not operate.	- The temperature setting on the control panel is lower than the room temperature.	- Select higher room temperature at the control panel.
After the heater is switched on, the green LED is lit and the red LED blinks.	- Electronics are defective.	- Please contact the Truma Service Centre.
Approximately 30 seconds after the heater is switched on, the red LED is lit.	- Gas cylinder gas shut off valve at the manifold is closed. - Combustion air infeed or exhaust outlet is sealed.	- Check gas supply and open valves. - Inspect openings for contamination (slush, ice, leaves, etc.) and remove contamination if necessary.
After operating for a longer period of time, the heater switches to failure.	- Summer operation with empty water tank. - Hot-air outlets blocked. - Recirculated air intake blocked. - Gas pressure regulator iced up - Butane content in the gas cylinder too high.	- Switch device off and allow to cool. Fill boiler with water. - Check individual outlet apertures. - Remove blockage from recirculated air intake. - Use regulator heating (EisEx). - Use propane (at temperatures below 10 °C in particular, butane is unsuitable for heating purposes).

Green and red LEDs blink after heater is switched off.	- Unit was switched off during failure. After-running is active in order to reduce the unit's temperature.	- After-running will switch off after a few minutes. Only at that time will a failure reset be possible (switch off and then back on).
Green LED blinks after heater is switched off.	- After-running is active in order to reduce the unit's temperature.	- No failure. After-running will switch off after approximately 5 minutes.
When the device is switched on in electrical operation the red LED on the control panel flashes, the yellow LED on the power selector switch does not illuminate and the heater does not heat up.	- No 230 V operating voltage. - 230 V fuse defective. - Overheating protection has activated.	- Check 230 V operating voltage. - Check 230 V fuse and replace if necessary. - Reset overheating protection. Allow heater to cool, remove connection cover and press reset button.

If these measures do not remove the failure, please contact the Truma Service Centre.

ALDE COMPACT 3010 QUICK START GUIDE

Use the Left < and Right > arrow keys to move across the symbols. Highlight the required symbol so that it flashes. You can then adjust the function.

Use the +/On and -/Off keys to adjust settings and turn functions On and Off.

On	With 'On' displayed the boiler is in standby mode and ready to be given commands.
Off	With 'Off' displayed the boiler is shutdown.
	Select your desired room temperature.
	30 min hot water booster, with this function 'On' the circulation pump for the heating is turned off.
	Select 'On' to operate the boiler LPG.
	Select 1kW or 2kW to operate the boiler on 230V Electric.
	Indicates that the circulation pump is operating for central heating.
	Indicates that 230V is supplied to the boiler.

PRE-START CHECKS

- Ensure the system is filled with Glycol before starting the boiler, check the expansion tank level. The fluid should be 10mm above the minimum mark when cold.
- Ensure adequate LPG Propane, 230V and 12V supplies are connected and turned on. The control panel should be active and display the 230V connection symbol.
- Turn the boiler 'On' using the control panel, then scroll across and raise the desired room temperature to +30ºC. The circulation pump symbol should appear. Visually check in the expansion tank that the pump is operating.
- Scroll across and turn on the 2kW electric heater using the panel. Wait for 10 minutes and check that the upper flow pipe on the boiler is getting hot. The bottom return pipe may also be warm.
- Scroll back and turn on the gas burner using the control panel. You might not be able to hear it start, so visually check the flue outside to confirm the boiler is operating. Wait for 10 minutes and check the lower return pipe on the boiler. It should now be hot and the boiler fully operational.

ALDE COMPACT 3010

Please read these instructions carefully before using the boiler.

Installation and repairs may only be carried out by a professional. National regulations must be adhered to.

BOILER DESIGN

The boiler consists of three eccentrically- fitted cylinders (heat exchanger, water jacket for the heating system and, outermost, water jacket for hot water). The two outer pipes, and their ends and connections, are made of stainless steel, while the heat exchanger is made of aluminium.

The heat exchanger is divided into two semi-circles. The burner is located in the upper half, being the combustion chamber, and the combustion gases are expelled through the lower half. The burner unit is fitted on the end of the heat exchanger. It consists of a combustion fan, burner, solenoid valve and intake/exhaust connections. Two heating cartridges are fitted to the water jacket of the heating system. Maximum output is 2 or 3 kW, depending on model.

DESCRIPTION OF FUNCTIONS

Using LPG

When LPG operation is selected on the control panel, the combustion fan starts. When the fan speed is correct, it signals the circuit board that the boiler can be lit. The circuit board sends ignition sparks to the spark plug at the same time as it sends electricity to the solenoid valve, which opens to allow gas in. The burner ignites, and a sensor transmits a signal back to the circuit board that the boiler is lit, and the ignition spark stops. The burner keeps burning until the boiler thermostat or the room thermostat reaches the set temperature reading.

Should the boiler go out for any reason, the sensor is activated and a new attempt is made to start the boiler (in about 10 seconds).

Using the heating cartridge

Electrical operation is selected on the control panel, the 12-volt relays on the circuit board trip, allowing the 230 volt supply to reach the electrical elements.

The heating cartridge is controlled in the same way as the gas boiler.

Warm water

When only warm water is required, for example during the summer, no settings need to be made, the boiler will look after this function automatically.

The pump will only start when the temperature in the vehicle is lower than the set temperature (see item 4, Control Panel). If the vehicle temperature is higher, the pump will not start.

IMPORTANT INFORMATION

- The boiler must not be started if there is no glycol in the system.
- The LPG boiler and heating cartridge may be operated in parallel.
- The heating system may be heated up without the warm water heater being filled with fresh water.
- Always switch off the main isolator for the boiler when the vehicle is not being used.
- Always drain the warm water heater of fresh water if there is a risk of frost.
- The LPG boiler must not be operated when refuelling the vehicle.
- When washing the vehicle, take care not to get water in the venting.

The Domestic hot water heater

The boiler is fitted with a built-in warm water heater with a volume of approx. 8.5-litres fresh water. The warm water heater can produce around 12 litres of 40°C water per half-hour (at a cold water temperature of 10°C). If the heating cartridges are used instead of gas for heating the boiler, the capacity is slightly reduced.

Always rinse out the heater before it is used, particularly if it has not been in operation for some time.

Note: The hot water is not intended for drinking or cooking. When the heater is in continuous use, it should be emptied approx. once a month, to ensure that a new air cushion is formed in the heater. The air cushion is essential for absorbing pressure surges in the heater.

Note: The warm water heater should always be drained of fresh water when there is a risk of frost and when the motorhome is not in use.

The warranty does not cover frost damage.

Draining the heater using the combined safety/drain valve:

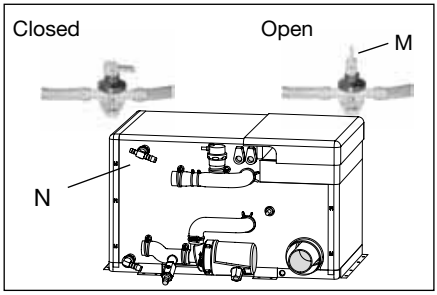
1. Switch off the freshwater pump

2. Open all water taps.

3. Then open the safety/drain valve by raising the yellow lever (M) to a vertical position.

4. The heater will now drain directly below the vehicle through the safety/drain valve hose. Check that all the water is emptied out (about 7-10 litres). Leave the valve in the open position until the next time the heater is used.

Note: Check that the automatic check valve (N) is open and is allowing air to enter the heater when it is being drained, and that the hose is not blocked.



THE HEATING CARTRIDGES

All Compact 3010s are fitted with two 230V heating cartridges with a maximum output of either 2100 or 3150W. Select the heating cartridge output on the control panel.

Always check that the input supply to the vehicle has the correct amperage in relation to the selected output.

Note these ratings are for the boiler only.

1050W requires a 6 amp fuse/supply.
2100W requires a 10 amp fuse/supply.
3150W requires a 16 amp fuse/supply.

THE CIRCULATION PUMP

A circulation pump is required to circulate the heated glycol fluid. A 12V circulation pump is fitted in the expansion tank.

An optional 230V circulation pump can be fitted on the boiler. Selection of circulation pump is made with a switch on the control panel. The room thermostat on the control panel controls the circulation pump, i.e. switches it on or off according to the amount of heat required.

SYSTEM TEMPERATURE

The boiler is set to a system temperature of 80°C, i.e. the temperature of the glycol fluid as it circulates in the heating system.

AIR CIRCULATION

In order to achieve the best possible result from the principle of convected heat, it is important to allow air to circulate freely under bunks, and behind backrests and wall-mounted cabinets.

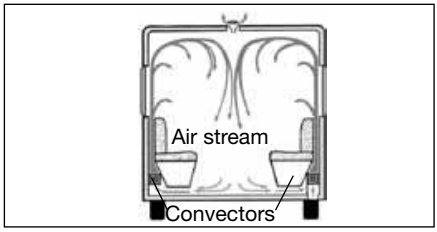
If the vehicle has a fitted carpet, ensure that the carpet does not obstruct the air supply to the radiators.

It is just as important that cushions or blankets do not interrupt the flow of air behind backrests and wall cabinets.

MAINTAINING THE HEATING SYSTEM

WINTER CAMPING

While camping during the winter, ensure that the flue is kept clear of snow and ice, since the inlet air to the LPG boiler enters through the flue. Do not start the LPG boiler until the flue is completely free of snow. A flue extension (part no. 3000 320) for fitting on the roof is recommended for winter camping.



THE HEATING SYSTEM

Regularly check the heating system's fluid level in the expansion tank. The level should be about 1cm above the minimum indicator in a cold tank. The heating system should be filled with a mixture of water and glycol.

For preference, use high quality ready mixed glycol (with inhibitor) intended for use in aluminium heating systems.

If using concentrated glycol, the mixture should consist of 50% water and 50% glycol. Any vessels used for the liquid must be spotlessly clean, and the pipes in the heating system must be free of contamination. This will prevent the growth of bacteria in the system.

The glycol mixture should be changed every second year, since its ability to protect against corrosion, for example, will deteriorate. The glycol content should be checked before topping up with new liquid. This will ensure that the concentration of glycol in the mixture is not too high.

If the fluid level in the expansion tank falls for reasons other than evaporation, please check all joints, drain cocks and bleeder screws to ensure that they are not leaking. If the glycol-water mixture leaks out, rinse with water and wipe up.

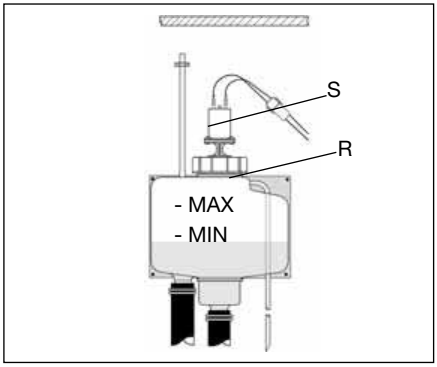
Never allow the heating system to stand empty of glycol.

FILLING THE SYSTEM WITH GLYCOL FLUID

Note: Any vessels used to carry the fluid must be spotlessly clean and the pipes in the system must be free of contamination. This will prevent the growth of bacteria in the system.

The system is filled through the expansion tank, either manually or using the Alde filling pump which both tops up and bleeds the system. For manual filling, unfasten the circulation pump nut (R) and lift the pump (S) out of the tank. Slowly pour the glycol mixture into the tank. Bleed the system.

Top up with more liquid if the level has fallen after bleeding. Bleed a newly filled system regularly during the first days the heating system is in operation.



BLEEDING THE SYSTEM

Depending on how the pipes have been fitted, air pockets may form when the system is filled with glycol fluid.

A sign that there is air trapped in the system is that the heat released into the pipes only extends a metre or so from the boiler even though the circulation pump is operating.

In newly-filled systems, small air bubbles can form in the expansion tank, creating a murmuring sound. If the circulation pump is stopped for a few seconds, the bubbles will disappear.

Bleeding:

The boiler is fitted with an automatic bleeder, valve to bleed air out of the boiler. Start the LPG boiler. The circulation pump should be switched off.

Open the bleeder screws in the system (please refer to the motorhome technical book for their locations). Leave the bleeder screws open until they start discharging fluid, and then close them. Start the circulation pump and let it run for a while. Check that the pipes and radiators around the vehicle are heating up.

If they still fail to heat up, try the following:

To help bleed the remaining trapped air place the vehicle on a sloping surface with the front end downwards. Then open the bleed screw at the highest point at the rear until it starts discharging fluid, then close the the bleed screw. Turn the vehicle around and bleed the highest point at the front.

FAULT FINDING

The boiler does not start

1. No LPG? Incorrect type for conditions?
2. Is the cylinder valve and gas shut off valve on the manifold open?
3. If the boiler has not been operated for some time, or if the gas cylinder has been changed, it may take longer than normal to light the boiler.
4. Check that the boiler is connected to the electricity supply (> 11V).
5. Check that the fuse (T) for the boiler is intact (See fuses on page 72).
6. Check whether the electric connections on the boiler are securely in position.

If none of the above helps, contact a service workshop.

The heating cartridge is not working

1. Check that there is an electricity supply (230V ~) to the heating cartridge.
2. Check that the relays fitted to the boiler come on (a slight click can be heard from the relays when the heating cartridge is switched on at the control panel).

If none of the above helps, contact your dealer or Alde - See page 9 for contact numbers.

CONTROL PANEL – FUNCTIONS AND SYMBOLS

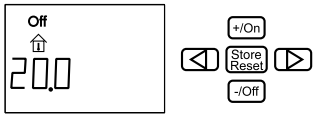
(Applies to control panels with program version 38 (06-17) or later, see item 17)

0. The standby and on-position of the control panel

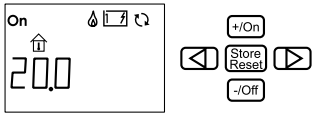
In standby, the functions which are activated in the boiler are shown, and there is no background lighting in the display. The control panel automatically goes to standby from the on position after two minutes if no buttons are pushed or if you step to standby (left of On/Off) with the arrow keys.

Start the on position by pressing any button. The background lighting comes on (blue light) and a function that can be set flashes. Select a function that can be set with the arrow keys. The settings are automatically saved.

1. The control panel is on standby and the heater is switched off.

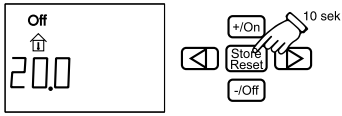


2. The control panel is on standby and the heater is operating.

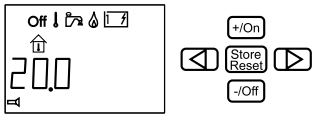


1. RESETTING THE SYSTEM

1. Press the Store/Reset button for 10 seconds. The control panel is reset to the factory setting.



2. The main breaker to the control panel is in the “Off” position, Gas is on, Electricity at 1kW and 22°C.



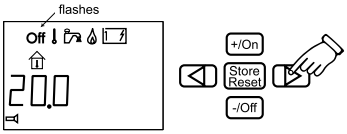
The pump is in automatic position.
The lower menu row is not lit up.

2. START THE HEATER

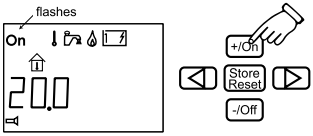
Start the heating in the motorhome with the settings last used.

If you break the power to the heater, the settings which were last used will automatically be used when the power comes back on.

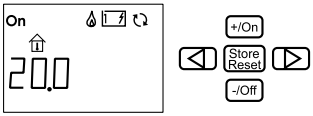
1. Press the button with the arrow until “Off” (main breaker) in the display flashes.



2. Press the +/On button.“On” (main breaker) in the display flashes.

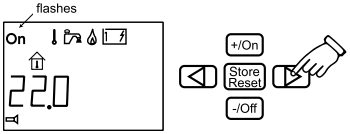


3. The settings are ready.“On” (main breaker) is shown in the display when the panel returns to standby.

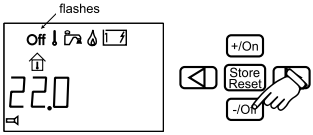


3. SWITCH OFF THE HEATER

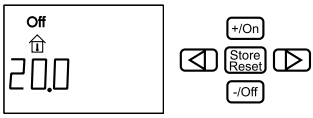
1. Press the button with the arrow until “On” (main breaker) in the display flashes.



2. Press the -/Off button. “Off” (main breaker) in the display flashes.



3. The settings are ready. “Off” (main breaker) is shown in the display when the panel returns to standby.

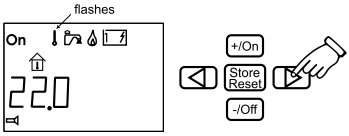


4. SET THE TEMPERATURE YOU WANT IN THE VEHICLE

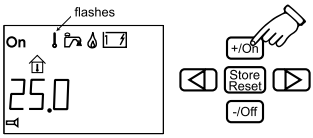
The temperature of the vehicle can be set from +5°C to +30°C at intervals of 0.5°C.

1. Press the button with the arrow until the symbol for selecting temperature flashes.

   The temperature shown is the temperature which is set at present (in this case 22.0°C).



2. Increase the temperature by pressing the +/On button. Lower the temperature by pressing the -/Off button. The diagram shows that we have set the temperature at 25.0°C.



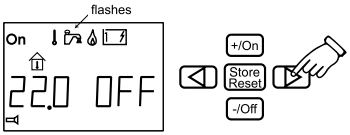
3. The settings are complete and the boiler is working at the set temperature.

5. WARM WATER

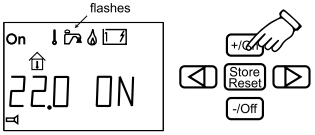
If you need more warm water you can increase the quantity temporarily for 30 minutes by increasing the water temperature from 50°C to 65°C.

When 30 minutes have elapsed, the water temperature returns to 50°C and the symbol goes out. When you have selected more warm water, the circulation pump stops.

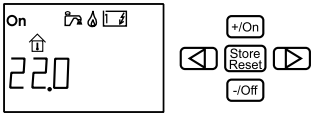
1. Press the button with the arrow until the symbol for selecting warm water flashes. The “OFF” text is shown next to the temperature on the display.



2. Switch the warm water on by pressing the +/ON button. The “ON” text is shown next to the temperature on the display.

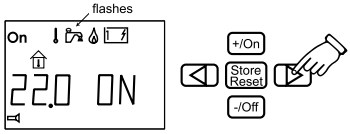


3. The warm water symbol is displayed when the panel returns to standby.

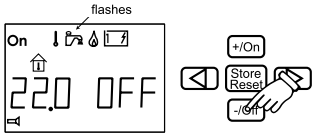


If you want you can switch off more warm water before 30 minutes have elapsed.

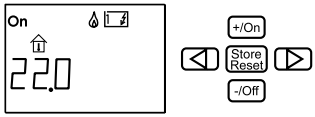
1. Press the button with the arrow until the warm water symbol flashes. The “ON” text is shown next to the temperature on the display.



2. Switch off the warm water by pressing the -/Off button. The “OFF” text is shown next to the temperature on the display.



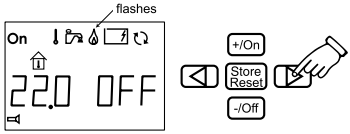
3. The warm water symbol goes out when the panel returns to standby.



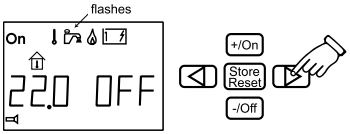
6. HEATING WITH GAS

Do as follows to activate heating with gas.

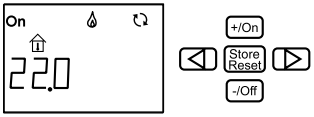
1. Press the button with the arrow until the gas heating symbol flashes. The “OFF” text is shown next to the temperature on the display.



2. Select gas heating by pressing the +/On button. The “ON” text is shown next to the temperature on the display.

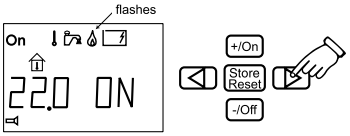


3. The gas heating symbol is displayed when the panel returns to standby.

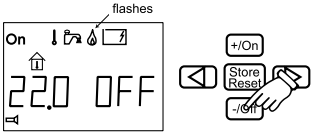


Do as follows to switch off the gas heating.

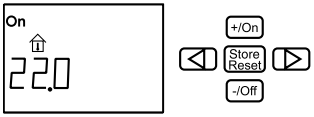
1. Press the button with the arrow until the gas heating symbol flashes. The “ON” text is shown next to the temperature on the display.



2. Switch off the gas heating by pressing the -/Off button. The “OFF” text is shown next to the temperature on the display.



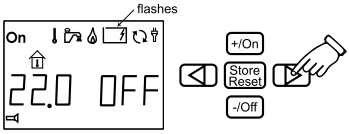
3. The gas heating symbol goes out when the panel returns to standby.



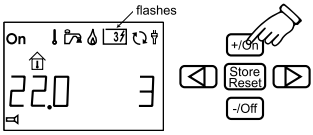
7. HEATING WITH ELECTRICITY

To activate heating with electricity. The greater the power the more rapid the heating will be.

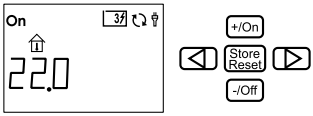
1. Press the button with the arrow until the electrical heating symbol flashes. The “OFF” text is shown next to the temperature on the display.



2. Select power (1kW, 2kW or 3kW) with the +/On or -/Off buttons. The diagram shows that 3kW power has been selected (some boilers are only equipped with 1-2kW).

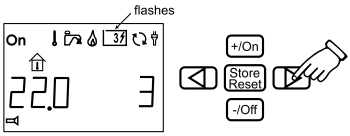


3. The electrical heating symbol is shown when the panel returns to standby.

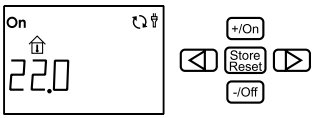


Do as follows to switch off heating with electricity.

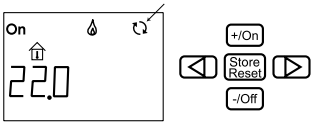
1. Press the button with the arrow until the electrical heating symbol flashes.



2. Switch off the electrical heating by pressing the -/Off button until all power steps have gone out. The “OFF” text is shown next to the temperature on the display.



3. The electrical heating symbol goes out when the panel returns to standby.

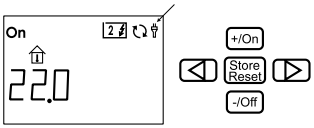


8. CIRCULATION PUMP

This symbol is displayed when the circulation pump is operating (12V-pump or 230V-pump).

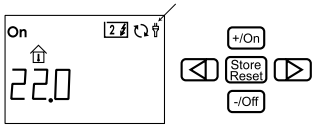
When heating is required in the vehicle, the pump starts automatically.

The boiler selects the 230V pump if one is installed in the system. When the 230V is disconnected from the vehicle the 12V pump is automatically selected. The symbol will light up even if the pump is defective.



9. 230V CONNECTION

This symbol lights up when 230V is connected to the vehicle.



10.TEMPERATURE

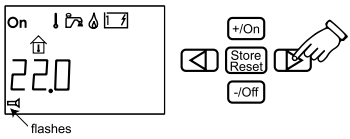
This symbol shows the indoor temperature in the motorhome in intervals of 0.5°C.

This symbol shows the temperature outside the motorhome in intervals of 1°C. To use this function an outdoor temperature sensor must be installed.

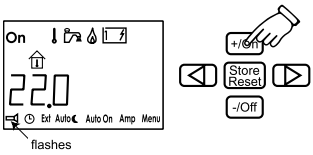
11. WORKING WITH THE LOWER MENU ROW

The lower menu row can be used for such things as setting the clock, external start, night temperature, automatic start of the heater. To use the lower menu row you must activate it by doing as follows:

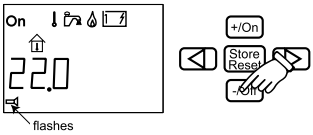
1. Press the button with the arrow until the symbol for the lower menu row flashes.



2. Light up the menu row by pressing the +/ On button. The lower row with symbols lights up.



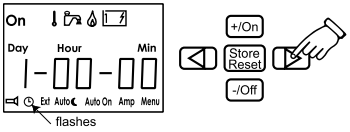
3. To switch off the lower menu row, press the -/Off button when the symbol flashes. Activated functions will be displayed even if the lower menu row is switched off.



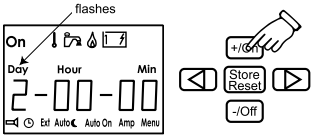
12. CLOCK

To set the clock, first light up the lower row of functions (see item 11).

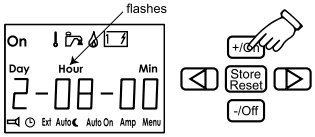
1. Press the button with the arrow until the clock symbol flashes.



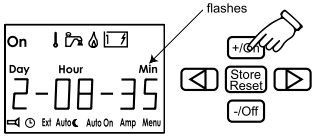
2. Press the +/On button. Day flashes. Use +/On or -/Off to set the weekday.



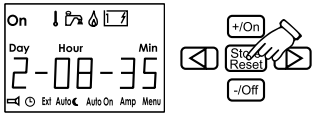
3. Step forward with the arrow key until the time is displayed. Hour flashes. Use +/On or -/Off to set the full hour.



4. Then step forward with the arrow key until the minutes are displayed. Min flashes. Use +/On and -/Off to set the minutes.



5. Press Store and the time you have set is stored. The example shows Tuesday, 08.35.



If the power to the panel is broken and the battery backup is not connected, the clock must be set again.

Weekday: 1-7

1=Monday

7= Sunday

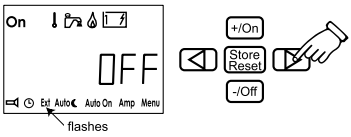
Hours: 0-23

Minutes: 0-59

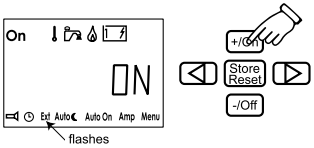
13. EXTERNAL START EXT

This function is used if you wish to start the heater in the motorhome from outside. To use this function it is necessary to have the external start function option fitted. To activate external start, first light up the lower menu row of functions (see item 11).

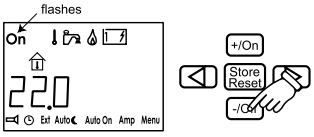
1. Press the button with the arrow until the “Ext” symbol flashes. The “OFF” text is shown next to the temperature in the display.



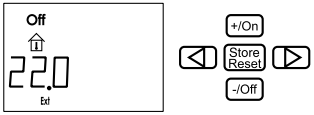
2. Press the +/On button. The “ON” text is shown next to the temperature in the display.



3. Press the button with the arrow until the On symbol (main breaker) flashes. Press -/Off.



4. Off and Ext are shown in the display when the panel returns to standby. External start is activated.



When external start is activated the heater will start with the latest settings and “ON” (main breaker) comes on. If 12V is not connected to the heater, the display will not light up until 12V is connected. The external start function is still activated.

To switch off external start, go to the

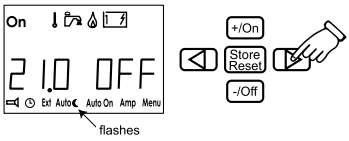
“Ext” symbol in the on position and press the -/Off button.

14. AUTOMATIC TEMPERATURE CHANGE Auto

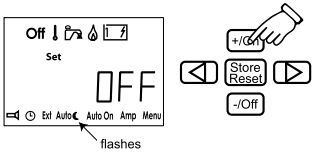
This function is used when you wish to set automatic temperature change, for example, during the night.

In order to activate automatic temperature change, first light up the lower row of functions (see item 11).

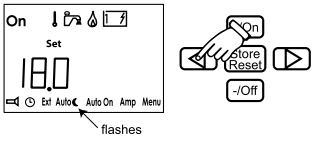
1. Press the button with the arrow until the symbol for automatic temperature change flashes. The temperature and the “OFF” text are shown on the display.



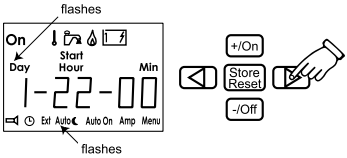
2. Press the +/On button. Set flashes and the OFF text is shown in the display. Press +/On to activate the function. “ON” is shown in the display.



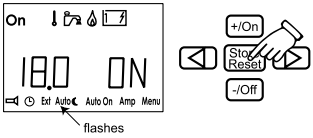
3. Press the left arrow key. The required temperature is displayed. Then adjust the temperature by pressing the +/On or -/Off button.



4. Then press Store and the start time is displayed. Adjust the start time (the same procedure as in 12) and press the “Store” button.



5. Now adjust the stop time and press “Store” again. The text field shows the required temperature and ON.



6. If you want the temperature change to be repeated daily, select day 0. Auto is shown in the display when the panel returns to standby.

15. STARTING THE HEATER AUTOMATICALLY AutoOn

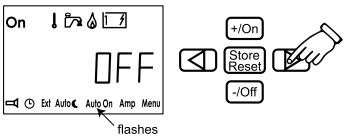
This function is used if you want the heater to start automatically at a later time. The heater works for 24 hours and then stops.

Automatic start is repeated the following week as long as the function is activated.

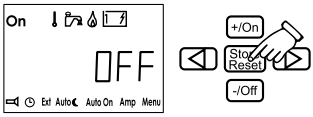
To activate the function you must first light up the lower row of functions (see item 11).

The function controls the panel’s main breaker.

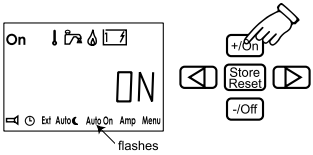
1. Press the button with the arrow until the AutoOn symbol flashes. “OFF” is shown in the display. To activate AutoOn, press the +/ On button or the -/Off button to close the function.



2. The start time will be displayed. Set the time in accordance with item 12 and press “Store” to store the settings. “OFF” is shown in the display.



3. Press the +/On button. On is shown in the display and AutoOn flashes. Set the panel’s main breaker to OFF.



When you get to the vehicle and AutoOn is activated, de-activate AutoOn so that the heater does not stop after 24 hours (the boiler cannot be switched off when AutoOn is activated).

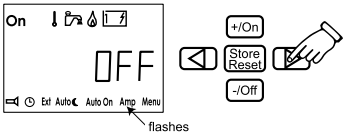
You can then step back with the left-hand button in the settings and press Store in all positions.

16. LOAD MONITOR AMP

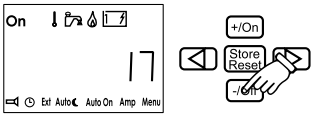
This function is used if you do not want the 230V fuses to become overloaded. If the vehicle’s total current consumption exceeds the set value, the boiler’s electrical power will be automatically reduced. On account of voltage variations and tolerances, one can select various control levels (for example, for 6A fuse, one can choose either 5,6,7 Amp setting).

If the fuse does not hold, select a lower set value. The function is disconnected in the factory setting. To activate the function, you must first light up the lower row of functions (see item 11).

1. Press the button with the arrow until the Amp symbol flashes. “OFF” is shown in the display.



2. Press the -/Off button to activate and set the function. The following values can be set with +/On or -/Off buttons, 5,6,7,9,10,11,15,16,17.



3. Amp is shown in the display when the panel returns to standby.

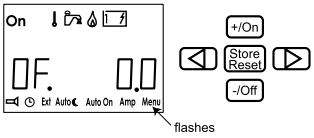
17. MENU **Menu**

In the “Menu” setting one can activate a number of functions. To activate the function you must first light up the lower row of functions (see item 11). To step between the various functions, use the arrow keys.

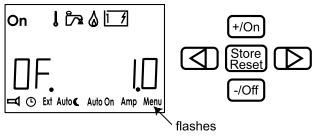
OFFSET (Temperature adjustment)

With this function you can calibrate the temperature on the panel if you notice that the temperature (the stabilised room temperature) does not correspond with the temperature shown on the panel.

1. Press the button with the arrow until the Menu symbol flashes. Press +On.
2. When OF is displayed, adjust the temperature displacement with +/On or -/Off (+/-5°C in intervals of 0.5°C).



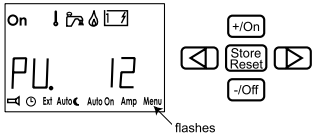
3. Press Store to leave the OFFSET function.



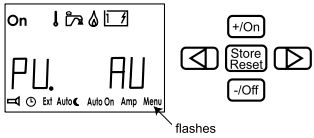
PUMP 12V/PUMP AU.

The12V pump is used in the PU 12 setting even if 230V is connected. In the PU AU position, the 230V pump works, and when 230V is disconnected, the 12V pump starts. The PU AU function is activated in the factory setting.

1. Press the button with the arrow until the Menu symbol flashes. Press +On.
2. When OF is displayed, step with the arrow key until PU AU is displayed. Press +On and PU 12 is displayed.



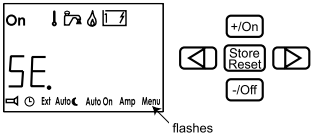
3. Press -/Off and PU AU is displayed. Press Store to leave the pump function.



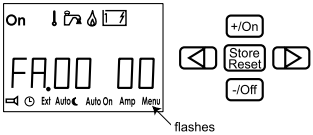
SERVICE

With this function one can see what values* from the heater are displayed. The values are updated once per second.

1. Press the button with the arrow until the Menu symbol flashes. Press +On.
2. When OF is displayed, step with the arrow key until SE is displayed. Press +/On to see the various values (-/Off can also be used).



3. To leave Service, press Store.



* The values shown during service are:

FA (revolutions): The speed of the fan divided by 2.

SH (temp): Warm water temperature.

HE (temp): Operating temperature.

OH: If the overheating protection has been tripped On or alternatively Off.

HS (X): Software version in the heater.

PS (X): Software version on the panel.

I: Amp. Guideline value shown in steps of 0.5 A.

WI: Window breaker on-off.

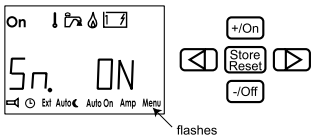
ES: External start on-off.

10-RS: Heater information, only for ALDE.

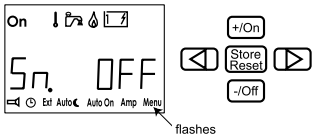
BUTTON SOUND

With this function you can connect or disconnect the button sound to the buttons. The button sound is disconnected in the factory setting.

1. Press the button with the arrow until the Menu symbol flashes. Press +On.
2. When OF is displayed, step with the arrow key until Sn is displayed. Press +/On and the button sound is connected.



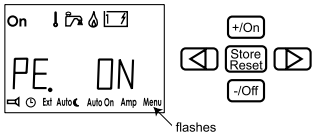
3. Press -/Off to disconnect the button sound. Then press Store to leave the button sound function.



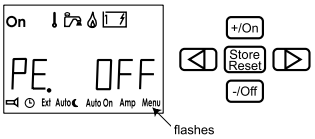
CONSTANT PUMP OPERATION

With this function, selected pump is in constant operation. The function is disconnected in the factory setting. This function limits the hot water supply, particularly when there is little need of heat.

1. Press the button with the arrow until the Menu symbol flashes. Press +On.
2. When OF is displayed, step with the arrow key until PE is displayed. Press +/On and constant pump operation is connected.



3. Press -/Off to disconnect constant pump operation. Then press Store to leave the pump operation function.



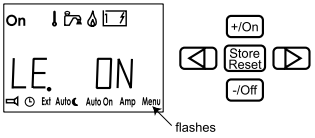
AUTOMATIC TEMP. INCREASE

At 02.00 hours (night time) the boiler starts and works in accordance with Warm water (item 5) if the clock is set. The reason for this is to reduce the risk of legionella.

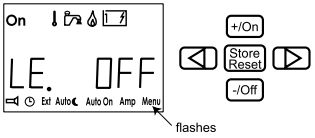
The function is disconnected in the

factory setting.

1. Press the button with the arrow until the Menu symbol flashes. Press +On.
2. When OF is displayed, step with the arrow key until LE is displayed. Press +/ On and legionella is connected.



3. Press -/Off to disconnect legionella. Then press Store to leave the legionella function.



18. FAULT MESSAGES

When a fault occurs in the system the reason is shown in the display.

LOW BAT: If the vehicle has a battery voltage of less than 10.5V, the heater stops. The heater is automatically reset when the voltage comes up to 11V.

FAN: Faulty fan speed. Automatic resetting after 5 minutes.

GAS OUT: Gas finished. Resetting by switching off and restarting the boiler in accordance with item 1.

OHEAT 1: Overheating protection tripped. To re-set, disconnect 12V from the boiler and connect again.

OHEAT 2: Thermostat tripped. To re-set, disconnect 12V from the boiler and connect again.

WINDO: Window open, the boiler stops for gas. Gas operation in the boiler starts when the window is closed. Electrical operation functions. Check the vehicle instructions to see whether this function is installed.

SERIAL: There is a connection fault between boiler and panel. Normally, this is a mechanical fault in the connection between the heater and panel. To re-set, break the main current and then start again.

19. EMERGENCY START

- Disconnect 12V and the cable to the panel on the heater.
- Connect a cable between 2 and 9 in the contact device (on the heater).
- Connect 12V to the heater.

Now the heater starts with gas and 1kW. (Regulation of room temperature does not function, constant pump operation)

ALDE TECHNICAL DATA

Measurements/Weights

Boiler height:	310mm
Boiler depth:	340mm
Boiler width:	510mm
Weight:	14kg (without fluid)

Gas	**Propane**	**Butane**
Output 1:	3.3kW	3.8kW
Consumption	245g/h	275g/h
Output 2:	5.5kW	6.4kW
Consumption:	405g/h	460g/h
Pressure:	I3+ 28-30/37 mbar I3B/P 30 mbar	

Volume/Pressure/Temp

Liquid volume radiator water:	3.5 litre
Liquid volume warm water:	8.4 litre
Max pressure radiator water:	0.05MPa (0.5 bar)
Max pressure warm water:	0.3MPa (3.0 bar)
System temperature:	max 85°C

230V ~

Output element:	1 x 1050W
Output element (2 or 3kW):	1 x 2100W

12V DC

Current consumption:	1 amp (max)
Fuse:	3.15 amp+ / 3.15amp-

THETFORD ABSORPTION REFRIGERATORS

This user's information is for Thetford absorption refrigerators. It explains how to use your refrigerator correctly and safely. Read these instructions and the Thetford manual carefully before using the refrigerator for the first time to obtain a quick overview of how to operate and use the refrigerator.

Thetford absorption refrigerators are specially designed to store fresh and frozen food and make ice cubes in caravans and motorhomes. The control panel allows you to select the preferred energy source and cooling level. Different energy sources allow you to use your refrigerator under different conditions.

Thetford absorption refrigerators belong to category C11: gas appliances that must be installed so that the combustion area is isolated from the living space.

To find out more about how your absorption refrigerator works, visit the website at www.thetford-europe.com.

Precautions and safety instructions

Alerts

The following alerts are used in this user's manual:

Warning! "Warning" alerts the user to the danger of damage to the product or to the user if the user fails to carry out the described procedures carefully.

Non-observance of the procedures may result in serious injury to the user or damage to the product.

Caution! "Caution" alerts the user to the possibility of damage to the product if the user fails to carry out the described procedures carefully.

Important! "Important" denotes supplementary information for the user and alerts the user to potential problems.

Warnings

- This refrigerator must be installed according to the manufacturer's instructions and in compliance with local and national regulations.
- Read this manual carefully before you start to use your refrigerator.
- Always consult the warnings before you perform any maintenance or gas checks.

Repairs/maintenance

- Never open or damage the cooling system. The cooling system is pressurised and contains substances harmful to health.
- Never attempt to repair gas, extractor or electrical parts yourself. They must be repaired by a qualified service engineer. Contact the Customer Service department of Thetford for a list of qualified parties.
- Always switch off the refrigerator before you perform any kind of maintenance or cleaning.

Use

- Never cover the ventilation grills in the walls of a motorhome. Good ventilation is essential for the correct working of the absorber system.
- Water in the ventilation grating can result in damage to the refrigerator. Therefore, we advise that you put the winter cover over the ventilation gratings prior to washing your vehicle.
- Never expose the refrigerator to rain.
- Never operate the refrigerator by gas while driving. If a road accident results in fire, there is a risk of explosion.

What to do if...

- You smell gas:
  - close the valve of the gas bottle;
  - extinguish any naked flames;
  - do not switch on any electrical devices or lighting;
  - open the windows and leave the room;
  - contact the Customer Service department of Thetford.
- You suspect a leak in the cooling system:
  - switch off the refrigerator;
  - extinguish any naked flames;
  - provide sufficient ventilation;
  - contact the Customer Service department of Thetford (see page 9 for contact details)

About your refrigerator

Your refrigerator has a cold space and a freezer compartment. After starting up the refrigerator, allow it to cool for at least eight hours before placing any food in it.

Cold space

The cooling fins are located on the inside of your refrigerator. The absorption system uses the cooling fins to withdraw heat from the refrigerator. Therefore, never place plastic or paper over the cooling fins. Air must be able to circulate freely through the refrigerator so that heat can be extracted.

Important! Do not cover the cooling fins at the back of the refrigerator with plastic or paper. The refrigerator cools optimally when air is allowed to move freely through the refrigerator.

- To limit frosting on the cooling fins:
  - always cover liquid foods before placing them in the refrigerator;
  - always let hot food cool before placing it in the refrigerator;
  - never keep the refrigerator open longer than necessary.

Fitting racks

Inside your refrigerator there are two or three storage racks. You can adjust the racks to a convenient height by means of a simple click system:

- click the plastic bracket to the right short side of the rack;
- turn the bracket into the horizontal position and insert the rack tipped in a sloping position into the refrigerator;
- place the short side without bracket into one of the grooves on the left wall of the refrigerator;
- place the short side with bracket in the corresponding groove on the right wall of the refrigerator;
- turn the bracket downwards to fix it into the groove.

To move a rack, turn the bracket upwards and remove the rack. Place the rack at the required height in the way described above.

Note: the fridge requires cooling using 230v or gas before turning to 12v. 12v operation will keep the fridge and contents cool when driving but will not cool them down from warm.

Securing products for driving

The fitting racks in your refrigerator have a system for you to secure products while driving. The system consists of a simple click-and-slide plastic strip. To secure products on the rack while driving, push the plastic strip as tightly as you can against the products on the rack. In the storage space on the inside of the refrigerator door, there are two unique Thetford bottle slides (see illustration). The slides prevent bottles from sliding around during driving. Push the slide against the products in the door or place the products between the bottle slide .

Freezer compartment

Important!

- The freezer compartment is unsuitable as a means of freezing food, the freezer will maintain the temperature of already frozen food
- Use only drinking water to make ice cubes.
- Do not place any other products in the freezer compartment when you are making ice cubes.
- Water freezes fastest with the thermostat at the highest setting.

Tip! Make ice cubes at night when your refrigerator has more spare capacity.

Door locking mechanism

The refrigerator door has an automatic locking mechanism. The door locks automatically when you press it shut firmly. This automatic locking mechanism also keeps the refrigerator door shut during driving. For some models an additional security device is fitted below the refrigerator. By pushing the locking bar over the pin when the door is closed, you can be sure that the door does not open during your journey.

If you are not going to use the refrigerator for a prolonged period of time, you can use the special storage latch of the door locking mechanism (see illustration) to prevent odours. Rotate the hook through 90 degrees and lock it in place using the strike plate.

Delux refrigerators operation (control panel illustrations 5 and 6)

- It is recommended to clean the inside of the refrigerator before you switch it on.
- Let the refrigerator cool for at least eight hours before you place food in it for the first time.

Igniting and starting your refrigerator

Manual ignition: ILLUSTRATION 5

A = Energy source selector switch

B = Thermostat

C = Flame meter

D = Manual ignition (piezo electric ignition)

Electric ignition: ILLUSTRATION 6

A = Energy source selector switch

B = Thermostat

C = Flame meter

(a) The refrigerator can be powered by the mains (230V), direct current (12V) or liquid gas. Select the energy source that you want by means of the energy source selector switch (A).

The switch has four settings:

- direct current (DC) (12V)
- mains supply (230V)
- gas
- switched off

(b) The thermostat controls the refrigerator temperature when the refrigerator is powered from the mains (230 V) or gas. The refrigeration level is indicated by the dots (the bigger the dot, the colder the setting).

(c) The flame meter shows whether the flame is alight. The flame is alight when the red needle of the meter moves into the green area.

(d) Pressing the manual (piezo electric) starter produces a spark that ignites the flame in the burner.

Electrical operation

The refrigerator can be powered by electricityin two ways:

- DC (12V): Set the energy source selector switch (A) to the refrigerator will now be powered by the battery of your car or camper.

Important: Always use the gas connection or mains voltage to start up the refrigerator for the first time and to cool it. Powering from the battery of your vehicle is suitable only for maintaining the temperature of the refrigerator and it's contents once it has been refrigerated.

- When powered by a vehicle battery (12V) the refrigerator works without temperature control (i.e. constant operation).
- Mains voltage (230V): set the power selector switch (A) to
- Set the temperature by means of the thermostat, rotary switch (B). (The bigger the dot, the colder the setting).

Powering with gas

WARNING! - Flammable material must be kept away from the rear of the refrigerator.

- For selection of gas type, see the information plate inside your refrigerator.
- For the pressure regulator model, see the information plate inside your refrigerator and the table at the back of this booklet.
- The type of gas container and its location must be in compliance with the most recent regulations. Ensure that the unit is installed in a location with good ventilation and make sure that the ventilation openings in the gas container storage location remain open.
- The changing of the gas container must be done outside in the open air and out of reach of any possible sources of ignition.
- It is prohibited to use gas to power the refrigerator while you are driving.
- It is prohibited to use gas to power the refrigerator in the vicinity of petrol stations. Open the valve of the gas bottle and the gas taps.
- Set the thermostat (B) to the highest level (the biggest dot)
- Set the energy source selector switch(A) to ignite the gas flame:

Manual ignition

- Press the thermostat (B), and keep it depressed.
- Press the button for manual ignition several times at intervals of between 1 and 2 seconds.
- Release the thermostat when the indicator of the flame meter enters the green area. If it does not enter the green area, repeat the previous step.

Warning: Never keep the thermostat depressed for longer than 30 seconds. If a flame does not appear, wait at least five minutes before trying again. If you fail to observe this rule, there may be an accumulation of gas creating the risk of fire or explosion.

- Set the desired refrigeration level by means of the thermostat (B). (The bigger the dot, the colder the setting)

Electrical ignition (illustration 6)

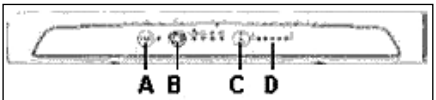
- Press the thermostat (B) and keep it depressed.
- Ignition takes place automatically. You will hear a ticking noise. If ignition was successful, the noise will stop and the flame meter will turn green. Release the thermostat.
- If the flame goes out, ignition will be repeated automatically.
- Set the desired refrigeration level by means of the thermostat (B). (The bigger the dot, the colder the setting)

Switching off the refrigerator

- Set the energy source selector switch (A) to switch off ◎.
- The refrigerator is now completely switched off.
- Use the special storage latch on the door locking mechanism to stop the door from closing. This prevents unpleasant odours and mould in the refrigerator.

Important: If you are not going to use the refrigerator for a prolonged period, close the valve of the gas bottle and the gas taps.

Premium LCD refrigerator operation (control panel, ILLUSTRATION 7)



A = Main switch (on/off)

B = Mode selection switch

C = cooling level switch

D = Display LED

- It is recommendable to clean the inside of the refrigerator before you switch on the refrigerator.
- Let the refrigerator run for at least eight hours before you place food in it for the first time.

There are two types of LCD refrigerators:

Electric and Automatic. Automatic LCD are supplied with the SES system, which allows the consumer to switch the refrigerator in AUTO mode which allows the refrigerator to automatically select the best power source.

Smart Energy Selection (SES)

When you start up a refrigerator equipped with Smart Energy Selection (SES) you should usually select the AUTO mode. The SES system will then automatically select the best of the three available energy sources.

The system will apply the following priority:

- mains voltage (230V)
- direct current (12V)
- liquid gas

If an energy source becomes available that has a higher priority than the source the refrigerator is currently using (e.g. if your vehicle engine is started), the system will stop using the current energy source and switch to the energy source with the higher priority.

If a fault occurs in one or more of the possible energy sources, the system will not generate an error message while an alternative energy source is still available. The SES system switches over automatically.

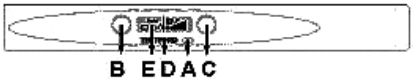
If none of the energy sources are available, the blue LED flashes every second and an error code is shown on the display.

Automatic modes additionally allow you to select the desired energy source manually.

Switching on the refrigerator

Important: The memory of the SES system saves every change made to the setting. Consequently, the SES system will start up on each subsequent occasion in the last selected setting.

ILLUSTRATION 8



A = Main switch (on/off)

B = Mode selection switch

C = cooling level selection switch

D = Function LED

E = LCD display

F = Divider heater switch

1. Open the valve of the gas bottle.
2. Open the taps of the gas supply.
3. Press main switch (A). The function LED will turn blue and all symbols on the LCD display will light up.
4. Use the mode selection (B) switch to select the 'Auto' function or one of the power supplies that you want. The LCD display will show the option you have selected.
5. Set the desired refrigerating cooling level by means of the cooling level selection switch (C). The LCD will show the cooling level setting you have selected.

(a) Use the main switch to switch the

refrigerator on and off. The function LED will turn blue. The display LCD shows the most recent settings. After 10 seconds the LCD displays backlight will go out.The function LED remains blue.

(b) Press the mode selector switch and the display LCD display backlight will show the setting for 10 seconds. Pressing the mode selector switch successive times take you through the menu in the following sequence AUTO, manual DC (12V), manual gas, manual mains voltage (230V) and back to AUTO. Select either the AUTO option or one of the other power supplies that you want to use. The LCD display shows the option you have selected. If you select the AUTO option, the system will choose the most suitable power supply and the AUTO symbol and the symbol of the power supply chosen by the system will both be shown on the LCD display. Ten seconds after release of the mode selector switch, the system will switch off the LCD backlight.

(c) Use the cooling level selector switch to control the temperature of the refrigerator. When you press the cooling level selector switch, the LCD backlight will light up and show the currently set temperature. Every time you press the cooling level selector switch you set the refrigerator one position cooler. On reaching the coldest temperature, the system will start again at the warmest temperature setting. Ten seconds after release of the cooling level selector switch, the system will switch off the LCD backlight.

(d) Only the N145 and the N 150 fridges have a divider heater. By heating the metal plate between the freezer and the fridge cabinet, the divider heater prevent the ice forming when the freezer door is opened and also prevents the freezer door from freezing stuck to the metal breaker of the fridge. To save energy the divider heater can be switched off. The switch can be found on the side control panel near the latch.

Powering with electricity

Powering with electricity can be selected both by the Auto mode (only Automatic fridges) and manually.

Mains voltage (230V):

This energy source will be selected if the mains voltage is greater than 200V. This power supply requires a continuous current of 12V to operate the electronic control system.

Direct current (12V):

(e) The SES system will select 12V powering only if a mains voltage (230V) is unavailable, the vehicle engine is running and a voltage higher than 11V is available. If a fault occurs during electrical powering (230V or 12V), an error message will not be shown on the display as long as another energy source is available. The system will automatically switch to the available energy source that has the highest priority.

Selecting electrical power manually Mains voltage (230V):

The LED on the main switch warns you whenever insufficient voltage is available or if a fault occurs. If this happens, the LED will start flashing once per second and an error code is shown on the LED display. When sufficient current is available again, or the fault has been resolved, the LED will emit a steady blue light again.

Direct current (12V):

- Always use a gas connection or mains voltage to start up the refrigerator for the first time and to cool it. Powering from the battery of your vehicle is suitable only for maintaining the temperature and its contents once it has been refrigerated.

The LED warns you whenever your vehicle's engine is not running, or if a fault occurs, or if insufficient voltage is available. If this happens, the LED will start flashing once per second and an error code is shown on the LCD display.

Once the engine is running, or the fault has been resolved, or sufficient voltage is available again, the LED will again emit a steady blue light.

Note: If the refrigerator has been manually set to operate at 12V, it will not automatically switch to another energy source when your vehicle's engine is not running. In this case, the refrigerator will stop cooling.

Powering with gas

Powering with gas can be selected both by the Auto mode (only Automatic fridges) and manually.

Warning: Flammable material must be kept away from the rear of the refrigerator.

- For selection of gas type, see the information plate inside your refrigerator.
- For the pressure regulator model, see the information plate inside your refrigerator and the table in the Thetford user instructions.
- The type of gas container and its location must be in compliance with the most recent regulations. Ensure that the unit is installed in a location with good ventilation and make sure that the ventilation openings in the gas container storage location remain open.
- The changing of the gas container must be done outside in the open air and out of reach of any possible sources of ignition.
- It is prohibited to use gas to power the refrigerator while you are driving.
- If a road accident results in fire, there is a danger of explosion
- It is prohibited to use gas to power the refrigerator in the vicinity of petrol stations.

Auto mode

The system will select gas operation if:

- mains voltage (230V) is unavailable;
- the vehicle's engine is not running.

Once mains voltage (230V) is available again or the vehicle's engine is running, the system will switch to the available energy source that has the highest priority if in the Auto mode.

If the refrigerator switches from 12V DC to gas operation when it is in auto mode, the system will wait for about 15 minutes before igniting the gas. During this time, however, the gas indicator lamp will come on. The delay is built in to avoid it switching to gas operation whenever you stop to refuel your vehicle. You can cancel the delay by immediately switching the refrigerator off and then on again.

If the system selects gas operation, the ignition will be activated automatically. The gas will flow to the burner and be lit by the electric ignition. If the flame goes out, the gas will immediately be lit again.

Selecting gas operation manually

If the flame cannot be lit within 30 seconds, the gas supply will stop and gas mode will be switched off. The LED will start flashing every second and an error code is shown on the LCD display.

The gas mode can be reset only if the refrigerator is switched off. If you switch the refrigerator on again and the gas mode is still not working, the LED of the manual gas mode will flash to indicate that gas is unavailable and an error code is shown on the LCD display

IMPORTANT ! It is prohibited to use gas to power the refrigerator while you are driving. If a road accident results in a fire, there is a danger of explosion. It is prohibited to use gas to power the refrigerator in the vicinity of petrol stations.

If it takes longer than 15 minutes to refuel your vehicle, you should switch the refrigerator off using the main switch (A).

Switching off the refrigerator

- Push the main switch (A).
- The blue LED will go out.
- The refrigerator is now completely switched off.
- Use the special storage latch on the door locking mechanism to fixate the open door. This prevents unpleasant odours and mould in the refrigerator.

N180

The N180 is the first absorption fridge with three temperature zones. A freezer compartment (up to -180 C). A normal

cold section (approx 50 C) and a new cool section (approx 130 C) situated above the freezer compartment in the N180. This new cool section is ideal to store non-perishable products that are best stored in a cool place, like wine, butter, chocolate and bottled water.

Maintenance

Regular maintenance is necessary to ensure the correct functioning of your refrigerator.

Cleaning

Tip! A good time to clean your refrigerator is straight after you have defrosted it.

- Clean the refrigerator with a soft cloth and mild detergent.
- Dust the refrigerator with a soft, moistened cloth.
- Use a brush or soft cloth to remove once a year any dust from the condenser at the inside of the refrigerator.

Important: Do not use soap or aggressive detergents that are abrasive or soda-based.

- The removable interior components of the refrigerator are not dishwasher proof.

Defrosting

Frost will gradually build up on the condenser of the refrigerator. You should defrost the refrigerator as soon as the frost layer is about 3 mm thick. Frost reduces the refrigerating capacity and life of your refrigerator.

- Remove the ice cube tray and all food.
- Switch off the refrigerator.
- Leave the refrigerator door open.
- Place dry towels in the refrigerator to absorb the water.
- Place trays containing hot water in the freezer compartment.
- After defrosting (when the freezer compartment and condenser are frost-free), remove the towels and the water trays and use a cloth to dry off the refrigerator.
- Switch the refrigerator on again in the way described in section 4.1 ('Igniting and starting your refrigerator').

Important: Do not use force or sharp objects to remove frost.

- Do not try to accelerate defrosting by using (for example) a hair dryer.

Door locking mechanism

Frost will form in the refrigerator if the door is not closed properly. To determine whether the door closes properly, close the door with a piece of paper between the door and the refrigerator. Pull at the piece of paper. If you feel resistance, the refrigerator door closes properly. If you feel no resistance, the door does not close properly. Perform this test regularly on all four sides of the refrigerator door.

If you find that the door does not close properly, check whether the door locking mechanism keeps the door properly shut.

Winter operation

If you use the refrigerator when the outdoor temperature is below 8°C, install the Thetford vent winter/storage cover on the ventilation grills. The cover protects your refrigerator from excessively cold air. The winter cover is a refrigerator accessory obtainable from your motorhome dealer.

Tip! It is advisable to use the winter/storage cover if you are not going to use the vehicle for a long period of time.

Ventilation grating with winter cover

Important; do not use the winter/ storage cover in temperatures greater than 8°c as this can damage the cooling unit at the rear of the fridge. Remove the covers and re-fit when placing the vehicle back into storage.

Maintenance of gas equipment

A qualified service engineer must maintain and inspect gas and electrical equipment. It is advisable to have this maintenance work performed by a customer service centre. Contact the Customer Service department of Thetford for a list of qualified parties.

Important! European laws covering gas appliances and extractors prescribe observance of the following rules (which are the user's responsibility):

- appliances that run on liquid gas must be inspected before being used for the first time and every year thereafter.
- the gas burner must be cleaned at least once a year or more frequently if necessary.
- If a gas hose is used, it must be checked annually. This hose has a limited life and, thus, must be regularly replaced. Check the hose regularly for cracks, splits and ageing. If in doubt, replace the hose. Pay attention to the maximum life of the hose and replace it in time, as advised by the manufacturer or in conformance with local regulations.
- For replacement, a gas hose approved in accordance with the local regulations must be used. Position the hose so that it can rotate, is not kinked, and will allow
- Due to the limited life of the gas hose, it must be installed so that replacement is possible.

Maintenance checklist

This refrigerator will give you many years of trouble-free use if you simply run through the following checklist regularly:

- keep the refrigerator clean (see section 7.1 of the user instruction manual, 'Cleaning');
- defrost the refrigerator as often as is necessary (see section 7.2 of the user instruction manual, 'Defrosting');
- check the door closing mechanism regularly (see section 7.3 of the user instruction manual, 'Door locking mechanism');
- make sure that the ventilation grills are not blocked;
- Regularly clean the ventilation grills.

Vent screen

The vent has a vent screen to prevent bugs from entering the combustion area of the refrigerators. These vents need to be cleaned regularly to insure a good airflow. When the refrigerator performs poor because of external circumstances such as extreme ambient temperatures, the vents can be removed to improve the airflow and improve the cooling performance of the refrigerators.

Storage

If you do not expect to use your refrigerator for a lengthy period, carry out the following actions:

- Remove all food
- Switch off the refrigerator
- Clean the refrigerator as described in Section 7.1 'Cleaning'
- Shut off the gas tap to the refrigerator
- Leave the door of the refrigerator ajar using the special door closure hook (storage position)
- Place the winter protection on the ventilation grill.

Troubleshooting

If your refrigerator does not refrigerate properly or will not start, run through the following checklist. If this fails to solve the problem, please contact the Customer Service Department in your country contact details on page 8 of the Thetford Manual

- Check whether you have followed the instructions in chapters 4, 5 or 6 of the user instruction manual ('Switching on the refrigerator').
- Check whether the refrigerator is on a level surface.
- Check whether the refrigerator can be used with an available energy source.

THETFORD REFRIGERATOR FAULT FINDING

Possible cause	Action you can take
Problem: refrigerator will not work on gas	
a) Gas bottle is empty.	a) Replace the gas bottle.
b) Valve of the gas bottle or the blue shut-off valve is closed.	b) Open the valve of the gas bottle or shut-off valve(s).
Problem: refrigerator will not work on 12V DC	
a) 12V fuse is defective.	a) Fit a new fuse (See page 71)
b) Battery is empty.	b) Test the battery and charge it.
Problem: refrigerator will not refrigerate sufficiently	
a) Insufficient ventilation for the refrigerator.	a) Check whether the ventilation gratings are covered.
b) Thermostat set too low	b) Increase the setting of the thermostat
c) Too much ice on the condenser.	c) Check whether the refrigerator door shuts properly and defrost the refrigerator.
d) Too much hot food stored simultaneously.	d) Let the food cool off first.
e) Gas burner is dirty.	e) Have the gas burner cleaned.
f) Door does not shut properly.	f) Check the door closing mechanism.

Control panel diagnostics

Refrigerators with a LCD control panel have a special diagnostics area which displays an error code if there is a fault.

- **Fault 1:** AC heater current is measured to be 75% below nominal current.

  Action: Contact your dealer or a Thetford Service Centre.

- **Fault 2:** DC heater current is measured to be 75% below nominal current.

  Action: Contact your dealer or a Thetford Service Centre.

- **Fault 3:** AC heater is ON when it should be OFF.

  Action: Contact your dealer or a Thetford Service Centre.

- **Fault 4:** DC heater is ON when it should be OFF.

  Action: Contact your dealer or a Thetford Service Centre.

- **Fault 5:** Senses flame when gas should be OFF.

  Action: Contact your dealer or a Thetford Service Centre.

- **Fault 6:** Senses gas output terminal ON when should be OFF.

  Action: Contact your dealer or a Thetford Service Centre.

- **Fault 7:** Senses gas output terminal OFF when should be ON.

  Action: Contact your dealer or a Thetford Service Centre.

- **Fault 8:** AC mains supply is 20% below nominal.

  Action: Your controls are in manual AC mode, but there is no power available. Check if you plugged in the 230V connection, if so the voltage supply on the 230V connection is to low, contact the power supplier.

- **Fault 9:** Gas lockout because flame fails to ignite after 30 seconds.

  Action: Your controls are in manual gas mode, but the flame fails to ignite. Check if your gas cylinder is empty or if one of the shut-off valves is closed. Select another energy source. Reset the fridge 3 or 4 times in gas-mode until flame ignites. Contact your dealer or a Thetford Service Centre if problem isn't resolved.

- **Fault 10:** No "engine running" signal is present and control is in Manual DC mode.

  Action: Your controls are in manual DC mode and the engine of your vehicle is not running. The refrigerator can only cool on 12V when the engine of your vehicle is running. Start the engine or select a different energy mode.

- **Fault 11:** No energy source is available and control is in AUTO mode.

  Action: Your controls are in AUTO mode, but no energy source is available. Start the engine, connect the 230V supply or open the gas supply and reset the refrigerator by turning it of and on again.

- **Fault 12:** Contact your dealer or a Thetford Service Centre.

- **Fault 13:** Thermistor fails; control automatically switches to Backup mode (BOS).

  Action: Check if the connector above the fin on the inside of the cabinet is correctly plugged in. If so contact your dealer or a Thetford Service Centre.

- **Fault 14:** Display Board and Power board lost communication with each other.

  Action: Contact your dealer or a The

COOL BOX OPERATION

Domestic Waeco CB-40 Cool Box

The CB-40 is suitable for cooling and freezing foodstuffs. The Cool Box has an under-voltage protection mechanism. To protect the battery, the Cool Box switches off automatically if the voltage is insufficient. When the voltage is sufficient again, it switches on again.

Note: Before starting your new Cool Box for the first time, you should clean it inside and outside with a clean damp cloth for hygienic reasons. (see also “Cleaning and maintenance” below).

Operating the Cool Box

Switch the Cool Box on by turning the control knob to the right. (Fig 1.) After switching on, it takes approximately 60 seconds before the compressor starts up.

The desired temperature can be set by adjusting the control knob between minimum (warmest) and maximum (Coolest). Ensure that the objects placed in the Cool Box are suitable for cooling to the selected temperature.

Fig 1.

Warning: Ensure that food or liquids in glass containers are not excessively refrigerated. Liquids expand when they freeze and can thus destroy the glass containers.

The cooling capacity can be influenced by

- The ambient temperature,
- The amount of food to be conserved,
- The frequency with which the lid is opened.

The temperature in the Cool Box varies from the top to the bottom. The warmest at the top just under the lid and the coolest at the bottom immediately over the base.

Conserving foodstuffs

You can conserve foodstuffs in the Cool Box compartment. The time for which the food can be conserved in this way is usually stated on the package. Observe the temperature information and best before date on the food packaging.

Note: Food which can easily absorb tastes and odours, and liquids and products with a high alcohol content, should be conserved in airtight containers.

Warning: Do not re-freeze products which are defrosting or have been defrosted; consume them as soon as possible.

Defrosting the Cool Box.

Humidity can form frost in the interior of the Cool Box or on the vaporiser. This reduces the cooling capacity. Defrost the device in good time to avoid this.

Warning: Never use hard or pointed tools to remove ice or loosen objects which have frozen in place.

1. Take out the contents of the Cool Box.
2. Place them in another Cool Box to keep them cool, if necessary.
3. Set the knob to “0”.
4. Leave the lid open.
5. Wipe off the defrosted water.

Switching off the Cool Box

If you do not intend to use the Cool Box for a long time, proceed as follows:
Turn the knob to “0”.
Clean the inside. (see the “Cleaning and maintenance” below).
Leave the lid open to avoid unpleasant odours building up.

Cleaning and Maintenance

Warning: Do not use abrasive cleaning agents or hard objects during cleaning as these can damage the Cool Box. Never use brushes, scouring pads or hard or pointed tools to remove ice or to loosen objects which have frozen in place.

1. Clean the interior of the Cool Box regularly as soon as it becomes dirty with a damp cloth.
2. Wipe the Cool Box dry with a clean cloth after cleaning.

Energy saving tips

- Allow food to cool down first before placing it in the Cool Box.
- Do not open the lid more often than necessary.
- Do not leave lid open for longer than necessary.
- Defrost the Cool Box as soon as a layer of ice forms.
- Avoid unnecessarily low temperatures.
- Clean the condenser of dust impurities at regular intervals.
- Clean the lid seal regularly.

COOKER 3 BURNER WITH COMBINED GRILL AND OVEN / COOKER 3 BURNER + ELECTRIC HOTPLATE WITH SEPARATE GRILL AND OVEN

Burner operation

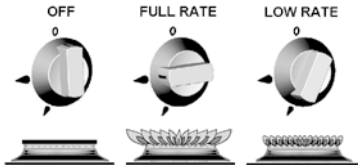


Fig. 1

IMPORTANT

- Although each burner will support pans from 10 to 22cm, care should be taken not to overload the appliance as performance may be reduced.
- The following pan sizes are the maximum:
  - Auxiliary Burner:- Ø200mm Semi-Rapid Burner:- 2x Ø200mm or 1x Ø220mm with 1x Ø180mm
  Electric Hotplate:- Ø180mm
- When using small pans the flames should not spread beyond the base of the pan as this will reduce the efficiency of the burner.
- Avoid old or misshapen pans as these may cause instability.
- The lid must be opened fully prior to using the hotplate burners.

Using the Hotplate Gas Burners

1. Ensure gas cylinder is connected and turned on and the shut off valve at the manifold is open. In the event of a gas smell turn off at gas cylinder and contact supplier.
2. Flame supervision: Each burner is controlled individually and is monitored by a thermocouple probe. In the event of the burner flames being accidentally extinguished, turn off the burner control and do not attempt to re-ignite the burner for at least one minute.
3. To light: Push in the control knob and turn to full rate – see Fig.1. Hold a lighted match or taper to the burner and push the control knob in and hold. It is necessary to hold the knob depressed after the burner has ignited for approximately 10 - 15 seconds, to allow the thermocouple probe to reach temperature, before releasing the knob. Should the flame go out when the knob is released, the procedure should be repeated holding the knob depressed for slightly longer.
4. For models fitted with Spark Ignition the procedure is similar except that the burner can be ignited by depressing the ignition button, which is located on the fascia. If the burner has not lit within 15 seconds the control knob should be released and the burner left for at least 1 minute before a further attempt to ignite the burner.
5. For simmering, turn the knob further anti-clockwise to the low rate position.
6. To turn off: Turn the control knob until the line on the control knob is aligned with the dot on the control panel. Always make sure the control knob is in the off position when you have finished using the hotplate burners.

OPERATION

Using the Electric Hotplate

Ensure the electricity is switched on.

The hotplate control is numbered from 1 to 6. To turn it on, rotate the knob either clockwise or anti-clockwise to the required position. Position 1 is the coolest setting.

To turn the hotplate off, rotate the knob until the line or pointer on the knob lines up with the zero on the control panel.

The hotplate is a sealed construction and transfers heat through conduction. For maximum efficiency a correctly sized pan with a flat heavy gauge base should be used. Pan size should be the same or slightly larger (up to 1" / 2.5cm oversize).

Before using your hotplate for the first time, we recommend that you prime and then season it.

To prime the Hotplate

Switch on the hotplate for a short period, without a pan, to harden and burn off the coating.

Use a medium to high setting for 3 – 5 minutes. A non toxic smoke may occur during this process. Allow it to cool, then season.

To season the Hotplate

First heat the hotplate for 30 seconds on a medium setting, then switch off. Pour a minimal amount of unsalted vegetable oil onto a clean dry cloth or paper towel, and apply a thin coat of oil to the hotplate surface. Wipe off any excess oil, then heat the hotplate on a medium setting for 1 minute. Occasional seasoning will help to maintain the Hotplate's appearance.

WARNING

- Glass lids may shatter when heated. Turn off the hotplate and allow it to cool before closing the glass lid.
- Remove all spillage from the surface of the glass lid before opening.
- The glass lid has the tendency to snap shut towards the end of lowering.

This is caused by the travel lock action of the hinges as it is activated.

Make sure all fingers are removed from appliance when closing the lid.

IMPORTANT

- Depending on specification, your appliance may be fitted with a glass lid shut-off system, which cuts off the power to all hotplate burners (gas and electric) if the lid is closed.
- Ensure the glass lid is in the open and upright position before turning on the hotplate burners.
- Not all models are fitted with the shut-off system.

OPERATION

WARNING

- THE GRILL MUST ONLY BE USED WITH THE DOOR OPEN.
- On combined grill and oven cookers THE HEAT DEFLECTOR BELOW THE FASCIA SHOULD BE PULLED OUT PRIOR TO LIGHTING THE GRILL. NEVER ADJUST THE HEAT DEFLECTOR POSITION WITHOUT USING HAND PROTECTION I.E. OVEN GLOVES. See Fig 3

On separate grill and oven cookers the grill area can get hot when the oven is in use, even if the grill is switched off.

- Care should be taken when removing pans from the grill, i.e. use of oven gloves, and by making use of the removal grill pan handle.

IMPORTANT

- The grill pan supplied is multi functional, for use in grill or oven.
- The handle design allows removal or insertion whilst the pan is in use.
- Always remove the handle when the pan is in use.
- The grill MUST only be used with the door open.

Using the Grill

1. Ensure gas cylinder/supply is connected and turned on. In the event of a gas smell turn off at gas cylinder/mains and contact supplier.
2. To light: Open door, push in the control knob and turn to full rate – see Fig 1 (page 137). Hold a lighted match or taper to the burner and push the control knob in and hold. The burner should ignite and the control knob should be held in for 10 -15 seconds before release.

If the burner goes out, repeat procedure holding control knob for slightly longer.

3. For models fitted with Spark Ignition the procedure is similar except that the burner can be ignited by depressing the ignition button, which is located on the fascia. Ignition must be carried out with the door open, and if the burner has not lit within 15 seconds the control knob should be released and the grill left for at least 1 minute before a further attempt to ignite the burner.
4. **Note:** the grill must only be used with the door open.

5. On first use of the grill, it should be heated for about 20 minutes to eliminate any residual factory lubricants that might impart unpleasant smells to the food being cooked. A non-toxic smoke may occur when using for the first time so open any windows and turn on mechanical ventilators to help remove the smoke.
6. Although the grill does heat up quickly, a few minutes preheat is recommended.
7. Flame Failure Device (FFD): the grill burner is fitted with a flame sensing probe, which will automatically cut off the gas supply in the event of the flame going out. In the event of the burner flames being accidentally extinguished, turn off the burner control and do not attempt to re-ignite the burner for at least one minute.
8. It is normal for the flames on this burner to develop yellow tips as it heats up.
9. A reversible grill pan trivet enables the correct grilling height to be achieved.

Fast Toasting	trivet in high position
Grilling Sausages	trivet in high position
Grilling Steak/Bacon	trivet in high position
Grilling Chops, etc	trivet in low position
Slow Grilling	trivet removed

10. To turn off: turn the control knob until the line on the control knob is aligned with the dot on the control panel. Always make sure the control knob is in the off position when you have finished grilling.

IMPORTANT:

- The pan supplied with the appliance is multi functional, for use either whilst grilling or when using the oven.
- The handle design allows removal or insertion whilst the pan is in use.

Warning: Pans must not touch the glass lid.

Advice: To avoid heat build up around the hob open the kitchen window slightly to allow the heat to dissipate.

OPERATION

IMPORTANT

- The appliance is fitted with a cooling system. The cooling fans should automatically switch on a couple of minutes after the grill and/or oven is turned on, and will remain on even after the appliance has been switched off.
- The fans should automatically switch off a few minutes after the appliance has been switched off, when the front of the appliance has cooled sufficiently.
- A constant 12V supply is necessary at all times to ensure the cooling system operates correctly.

Using the Oven

1. Ensure gas cylinder/supply is connected and turned on. In the event of a gas smell turn off at gas cylinder/mains and contact supplier.
2. To light: Open door, push in the control knob and turn to full rate (240°C). Hold a lighted match or taper to the burner and push the control knob in and hold. The burner should ignite and the control knob should be held in for 10 -15 seconds before release.
   If the burner goes out, repeat procedure holding control knob for slightly longer.
3. For models fitted with Spark Ignition the procedure is similar except that the burner can be ignited by depressing the ignition button, which is located on the fascia. Ignition must be carried out with the door open, and if the burner has not lit within 15 seconds the control knob should be released and the oven left for at least 1 minute before a further attempt to ignite the burner.

4. Place the oven shelf in the required position and close the door. Set control knob to approximately 200°C and heat the oven for about 30 minutes to eliminate any residual factory lubricants that might impart unpleasant smells to the meals being cooked. A non-toxic smoke may occur when using for the first time so open any windows and turn on mechanical ventilators to help remove the smoke.
5. Although the oven does heat up quickly, it is recommended that a 10 minute preheat be allowed. The oven should be up to full temperature in about 15-20mins.
6. To turn off: turn the control knob until the line on the control knob is aligned with the dot on the control panel.
7. Shelf: the shelf has been designed to allow good circulation at the rear of the oven and is also fitted with a raised bar to prevent trays or dishes making contact with the back of the oven. To remove a shelf, pull forward until it stops, raise at front and remove.

Important: The pans and trays supplied with this appliance are the maximum sizes recommended for use. Larger pans and trays may restrict good circulation of heat, increasing cooking times.

Oven Temperature Control

The temperature in the oven is controlled by a thermostatic gas tap and is variable over the range 130°C to 240°C. Approximate temperatures for the settings on the control knob are shown in the table below. The temperatures indicated refer to the centre of the oven and at any particular setting the oven will be hotter at the top and cooler towards the base.

The variation between top and centre, and centre to bottom is approximately equivalent to one gas mark. Good use can be made of the temperature variation in several dishes requiring different temperatures may be cooked at the same time. In this way maximum benefit can be obtained from the gas used to heat the oven. Care should be taken not to overload the oven, adequate spacing being used to allow free circulation for heat.

OPERATION

Cooking Guidelines

Best results will be obtained by the shelf positions in this guide. It is not necessary to preheat the oven but advisable for a range of dishes. The oven is capable of full temperature in 15-20 minutes.

Most cookery books give details of the shelf positions and gas mark settings for each recipe. If in doubt about a recipe you intend to use, study the recipe carefully then find a similar dish in our guide and use our shelf position and gas mark setting recommendation.

Shelf positions are from the top down. When roasting with aluminium foil care must be taken that the foil does not impair circulation or block the oven flue outlet.

Gas Mark	Temperature (Centre - Shelf Pos. 2)	
1/4 - 1/2	265 - 275°F	130-135°C
1	285	140
2	300	150
3	330	165
4	355	180
5	385	195
6	410	210
7	430	220
8	445	230
9	465	240

DO'S AND DON'TS

DO read the user instructions carefully before using the appliance for the first time.

DO allow the oven to heat before using for the first time, in order to expel any smells before the introduction of food.

DO clean the appliance regularly.

DO remove spills as soon as they occur.

DO always use oven gloves when removing food shelves and trays from the oven.

DO check that controls are in the off position when finished.

DO NOT allow children near the cooker when in use. Turn pan handles away from the front so that they cannot be caught accidentally.

DO NOT allow fats or oils to build up in the oven trays or base.

DO NOT use abrasive cleaners or powders that will scratch the surfaces of the appliance.

DO NOT under any circumstances use the oven as a space heater.

DO NOT put heavy objects onto open grill and oven doors.

Leaks

If a smell of gas becomes apparent, the supply should be turned off at the cylinder

IMMEDIATELY. Extinguish naked lights including cigarettes and pipes. Do not operate electrical switches. Open all doors and windows to disperse any gas escape. LPG gas is heavier than air; any escaping gas will therefore collect at a low level. The strong unpleasant smell of gas will enable the general area of the leak to be detected. Check that the gas is not escaping from an unlighted appliance. Never check for leaks with a naked flame, leak investigation should be carried out using a leak detector spray.

MAINTENANCE & SERVICING

IMPORTANT

- Shut off gas supply at isolating valve, switch off electric supply and ensure all parts are cool before cleaning or servicing
- All servicing must be carried out by an approved competent person.
- After each service the appliance must be checked for gas soundness
- This appliance must not be modified or adjusted unless authorized and carried out by the manufacturer or his representative. No parts other than those supplied by the manufacturer should be used on this appliance.
- If the supply cord is damaged, it must only be replaced by the manufacturer or his representative in order to avoid a hazard.

This appliance needs little maintenance other than cleaning. All parts should be cleaned using warm soapy water. Do not use abrasive cleaners, steel wool or cleansing powders.

When cleaning the burner ring it is essential to ensure that the holes do not become blocked. The control knobs are a push fit and can be removed for cleaning. They are interchangeable without affecting the sense of operation.

MICROWAVE OVEN GENERAL USER INSTRUCTIONS

ALWAYS REFER TO THE MICROWAVE OPERATING INSTRUCTIONS SUPPLIED WITH THE VEHICLE

PRECAUTIONS TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

a. Do not attempt to operate this oven with the door open since open door operation can result in harmful exposure to microwave energy. It is important not to defeat or tamper with the safety interlocks.

b. Do not place any objects between the oven front face of the door or allow soil or cleaner residue to accumulate on sealing surfaces.

c. **WARNING** if the door or door seals are damaged, the oven must not be operated until it has been repaired by a competent person (1) door broken (2) hinges and latches (broken or loosened), (3) door seals and sealing surfaces.

d. **WARNING** it is hazardous for anyone other than a competent person to carry out a service or repair operation.

e. **WARNING** liquids or other foods must not be heated in sealed containers since they are liable to explode.

f. **WARNING** only allow children to use the oven without supervision when adequate instruction has been given so that the child is able to use the oven in a safe way and understands the hazards of improper use.

g. **WARNING** when the appliance is operated in the combination mode, children should only use the oven under adult supervision due to the temperature generated. (if provided)

IMPORTANT SAFETY GUIDANCE

WARNING: -To prevent fire, burns, electric shock and other warnings:

Listed below are, as with all appliances, certain rules to follow and safeguards to assure high performance from this oven:

IMPORTANT INSTRUCTIONS

1. Do not use the oven for any reason other than food preparation, such as for drying clothes, paper, or any other non food items or for sterilizing purposes.
2. Do not use the oven when empty, this could damage the oven.
3. Do not use the oven cavity for any type of storage, such as papers, cookbook, cookware etc.
4 Do not operate the oven without the glass tray in place. Be sure it is sitting properly on the rotating base.
5. Make sure you remove caps or lids prior to cooking when you cook food sealed in bottles.
6. Do not put foreign material between the oven surface and door. It could result in excessive leakage of microwave energy.
7. Do not use recycled paper products for cooking. They may contain impurities which could cause sparks and/or fires when used during cooking.
8. Do not pop popcorn unless popped in a microwave approved popcorn popper or unless it's commercially packaged and recommended especially for microwave ovens. Microwave popped corn produces a lower yield than conventional popping; there will be a number of unpopped kernels. Do not use oil unless specified by the manufacturer.
9. Do not cook any food surrounded by a membrane, such as egg yolks, potatoes, chicken livers, etc., without first piercing them several times with a fork.

10. Do not pop popcorn longer than the manufacturer's directions. (Popping time is generally below 3minutes). Longer cooking does not yield more popped corn it can cause scorching and fire. Also, the cooking tray can become too hot to handle or may break.
11. If smoke is observed, switch off or unplug the appliance and keep the door closed in order to stifle any flames.
12. When heating food in plastic or paper containers, keep an eye on the oven due lo the possibility of ignition.
13. The contents of feeding bottles and baby food jars shall be stirred or shaken and the temperature checked before consumption, in order to avoid burns.
14. Always test the temperature of food or drink which has been heated in a microwave oven before you give it to somebody, especially to children or elderly people. This is important because things which have been heated in a microwave oven carry on getting hotter even though the microwave oven cooking has stopped.
15. Eggs in their shell and whole hard-boiled eggs should not be heated in microwave ovens since they may explode, even after microwave heating has ended.
16. Keep the waveguide cover clean at all times. Wipe the oven interior with a soft damp cloth after each use. If you leave grease or fat anywhere in the cavity it may overheat, smoke or even catch fire when next using the oven.
17. Never heat oil or fat for deep frying as you cannot control the temperature and doing so may lead to overheating and fire.
18. Liquids, such as water, coffee, or tea are able to be overheated beyond the boiling point without appearing lo be boiling due to surface tension of the liquid. Visible bubbling or boiling when the container is removed from the microwave oven is not always present. THIS COULD RESULT IN VERY HOT LIQUID SUDDENLY BOILING OVER WHEN A SPOON OR OTHER UTENSIL IS INSERTED INTO THE LIQUID.

To reduce the risk of Injury to persons:

a. Do not overheat the liquid.

b. Stir the liquid both before and halfway through heating it.

c. Do not use straight-sided containers with narrow necks.

d. After heating, allow the container to stand in the microwave oven for a short time before removing the container

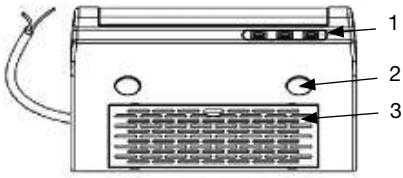
e. Use extreme care when inserting a spoon or other utensil into the container.

CARE OF THE MICROWAVE

1. Turn the oven off before cleaning
2. Keep the inside of the oven clean. When food spatters or spilled liquids adhere to oven walls, wipe with a damp cloth. Mild detergent may be used if the oven gets very dirty. The use of harsh detergent or abrasives is not recommended.
3. The outside oven surface should be cleaned with soap and water, rinsed and dried with a soft cloth. To prevent damage to the operating parts inside the oven, water should not be allowed to seep into the ventilation openings.
4. If the central panel becomes wet, clean with a soft dry cloth. Do not use harsh detergents or abrasives on Control Panel.
5. If steam accumulates inside or around the outside of the oven door, wipe with a soft cloth. This may occur when the microwave oven is operated under high humidity conditions and in no way indicates malfunction of the unit.
6. It is occasionally necessary to remove the glass tray for cleaning. Wash the tray in warm sudsy water or in a dishwasher.
7. The roller guide and oven cavity floor should be cleaned regular/y to avoid excessive noise. Simply wipe the bottom surface of the oven with mild detergent water or window cleaner and dry. The roller guide may be washed in mild sudsy water.

8. The oven should be cleaned regularly and any food deposits removed;
9. Failure to maintain the oven in a clean condition could lead to deterioration of the surface that could adversely affect the life of the appliance and possibly result in a hazardous situation.

Extractor hood 524



1 Operating panel
2 Light
3 Filter holder with grease filter

The extractor hood 524 serves to extract water vapour from cooking areas in motorhomes. The integrated halogen lamps (2) serve to illuminate the work surface.

The fan and the lighting (2) can be switched independently via the operating panel (1). At the same time. The integrated grease filter (3) prevents the extraction system from being contaminated from inside.

Safety information, always refer to the user instructions provided with your motorhome

Replacing the lamps on the extractor

Lamp type: max. 10W /12V halogen with UVStop

Always switch off the lights before replacing the lamps! The lamps get very hot during operation. There is a risk of being burnt. Wait until the lamp has cooled down.

There is a risk of injury if the lamp is broken.

Remove the remainder of the lamp using suitable tools only.

Replacing or cleaning the grease filter

Flip the front part of the grease filter downwards.

Pull it out towards you.

Remove the filter holder

You can now exchange the filter. Fix the new filter in place with the filter holder. Finally, reinstall the filter unit in the reverse order.

Always switch off the fan motor before replacing the grease filter! There is a risk of injury when reaching inside the running fan.

Replacing the grease filter

To replace the filter, proceed according to figures 8 & 9.

Flip the front part of the grease filter downwards.

Pull it out towards you.

Remove the filter holder

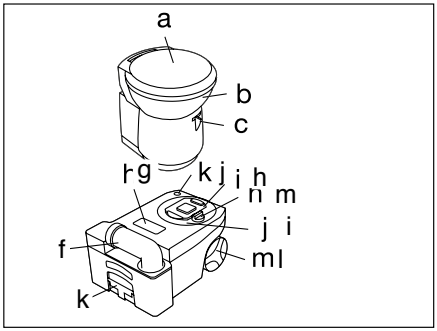
You can now exchange the filter. Fix the new filter in place with the filter holder. Finally, reinstall the filter unit in the reverse order.

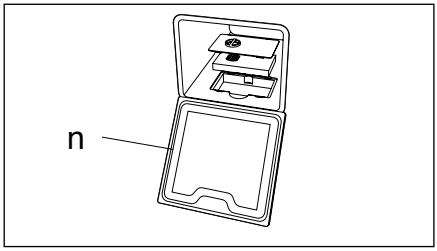
THETFORD C250CS & C250S CASSETTE TOILET

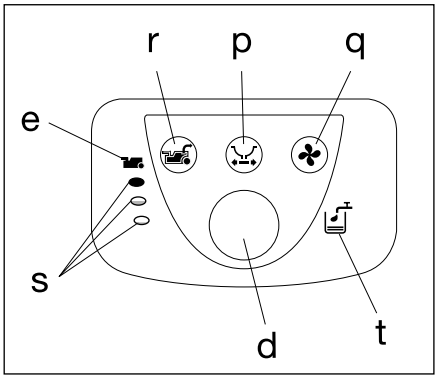
The toilet is made up of two parts: a permanently fixed part and a Waste Holding Tank that is accessible from the outside. The removable Waste Holding Tank is located under the toilet bowl and can be removed via a door on the outside of the motorhome.

PARTS

a) Removable Seat and Lid
b) Swivelling Toilet Bowl
c) Blade Handle
d) Flush Button
e) Waste Holding Tank Level Indicator
f) Rotating Emptying Spout
g) Automatic Pressure Release Vent
h) Sliding Cover
i) Removable Mechanism
j) Vent Plunger
k) Pull-Out Handle
l) Wheels
m) Blade Opener
n) Access Door to Waste Holding Tank
P) Electric blade opener
Q) Electric ventilator
R) Waste pump-out system
S) Waste holding tank mult-level indicator
T) Flush water tank level indicator







Control panel

Preparing for use

1. Open the access door on the outside of your motorhome.
2. Remove the Waste Holding Tank by pulling the safety catch (which holds the tank in place) upwards.
3. Pull the Waste Holding Tank outward to the stop. Tip it slightly and take the tank fully out.
4. Place the tank upright and turn the rotating emptying spout upwards. The emptying spout ensures that the tank can be easily and hygienically emptied.
5. Remove the cap, with the measuring cup inside, from the emptying spout and pour the correct dosage of Thetford toilet fluid (see product label) into the holding tank. This avoids unpleasant smells and keeps the inside of the tank clean. Next add approximately 2 litres of water - enough to ensure that the bottom of the Waste Holding Tank is covered. For more

information on Thetford toilet fluids, see last page of the Thetford user manual. Screw the cap back onto the emptying spout and turn back to its original position.

Note. The Emptying Spout Measuring Cap is supplied in the same packaging as the Thetford user manual.

WARNING! Never add toilet fluid directly via the blade or the toilet bowl as this could damage the lip seal of the Waste Holding Tank. Always pour the fluids via the emptying spout.

6. Slide the Waste Holding Tank back into its original position via the access door. Make sure that it is secured with the safety catch. Close the access door and lock it. Your Thetford toilet is now ready to use.

WARNING! Never use force if you cannot get the tank back into place easily. This may cause serious damage. If blockage occurs, always check if the blade handle is in the correct (closed) position.

Using the toilet

7. Turn the bowl to the desired position with the lid closed and using both hands.
8. To activate the control panel, press the flush-button once. The control panel display will stay activated for approximately 5 minutes. Run some water into the bowl by pressing the flush button again briefly.
9. The toilet may be used with the blade open or closed. To open the blade, slide the blade handle under the toilet bowl sideways. After use, open the blade (if still closed) and flush the toilet by pressing the flush button for several seconds (if necessary re-activate the control panel). Close the blade after use.

Emptying

The Waste Holding Tank has a capacity of 18 litres and requires emptying when the red light (LED) on the toilet control display lights up, when the Waste Holding Tank only has capacity for approximately 2 more litres, which is no more than two to three further uses.

Make sure that the blade is closed. Open the access door located outside the vehicle, pull the safety catch upwards and remove the Waste Holding Tank.

10. Place the Waste Holding Tank in an upright position (Pull-Out Handle at the top, Wheels at the bottom). Slide the handle sideways - to the front of the tank - until it snaps out of its locked position.
11. Pull the handle up and wheel the Waste Holding Tank to an authorised waste disposal point.
12. Push the handle back into its locked position. Turn the emptying spout upwards and remove the cap from the spout. Hold the Waste Holding Tank in such a way that during emptying you can operate the vent plunger with your thumb. To empty the tank without splashing, depress the vent plunger while emptying the tank. After emptying, rinse the tank and blade thoroughly with water.

WARNING! Do not seriously shake the tank or use high pressure water cleaners. This may cause damage to the tank's interior.

Note. The vent plunger should only be depressed once the emptying spout is pointing downwards. Prepare the toilet for re-use if required. Slide the Waste Holding Tank into the toilet and close the access door.

Cleaning and maintenance

The toilet should be cleaned and maintained regularly, depending on the amount of use. To clean Thetford toilets, we advise using water and Thetford Bathroom Cleaner.

Note. Never use bleach, vinegar or other powerful household cleaners that contain these substances. These may cause permanent damage to the seals and other toilet components.

THETFORD CASSETTE TOILET

Toilet bowl

- Squirt Thetford Bathroom Cleaner into the toilet bowl.
- Flush the toilet bowl with water and wipe down the rest of the toilet with a damp cloth.
- Clean seat and lid The seat and lid can easily be removed: Lift the seat and lid assembly and pull the round pins (inside the assembly) outwards from the pin holes. After cleaning, replace the seat and lid by positioning the round pins in front of the pin holes and push the lid and seat downwards.
- To keep your flush water fresh and to prevent deposits from forming in your toilet bowl, add a correct dosage of Aqua Rinse in your flush water tank, if present, on your toilet.

Tip! For a really shining toilet, dry with a soft dry cloth after cleaning.

Waste holding tank

To keep your Waste Holding Tank fresh and clean, Thetford has developed a number of different toilet fluids. Thetford toilet fluids suppress smells, reduce formation of gas, promote breakdown of toilet waste and increase the life span of a mobile toilet. See page 50 of the Thetford user manual for more information. We advise a thorough cleaning of the Waste Holding Tank once each season, using Thetford's Cassette Tank Cleaner.

- Remove the removable mechanism from the Waste Holding Tank by turning it anti-clockwise and rinse it under a tap.
- Remove the cover plate from the Automatic Pressure Release Vent by prising it up using a small screwdriver. Use one hand to push the Automatic Pressure Release Vent open while holding the float of the Automatic Pressure Release Vent on the inside of the tank with the other hand. Push the float upwards, turn it 180 degrees and remove it from below. Remove the rubber seal underneath the float. Rinse the float and rubber seal under a tap. Replace the Pressure Release Vent using the same method in reverse.

The rubber seals in the toilet (the lip seal, the mechanism seal, the automatic pressure release vent seal and the cap seal) should be regularly cleaned with water and treated with Thetford High Grade Seal Lubricant. This will ensure that the seals remain flexible and in good condition. If the toilet is not to be used for any length of time, it is important to treat the seals with Thetford High Grade Seal Lubricant after cleaning.

Note. Never use Vaseline or any vegetable oil except olive oil. These may cause leakage or malfunction. The lip seal is a part of the toilet that is subject to wear. Depending upon the extent and manner of use, the seals will become less effective and will need replacing periodically.

Winter operation

You can use your Thetford Cassette Toilet as normal in cold weather as long as the toilet is situated in a heated location. If there is a risk of freezing we advise that the toilet is drained by following the instructions under 'Storage'. For environmental reasons the use of antifreeze, such as that used in car radiators, is not recommended.

Storage

It is important that you follow the instructions below if you do not expect to use your Thetford toilet for a long (winter) period.

- With the vehicle fresh water tank drained, (See "Fresh Water System" on page 43 for how to drain the tank), press the toilet flush button until water stops flowing into the bowl. Close the blade. Open the access door on the outside of your motorhome and empty the Waste Holding Tank at an authorised waste dump. Follow the instructions for cleaning and maintenance. To allow the Waste Holding Tank to dry, do not place the cap back on the emptying spout of the tank.

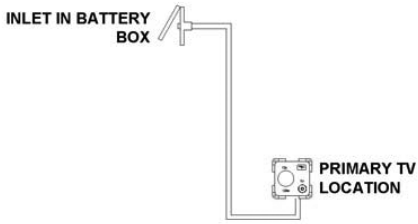
Thetford warranty refer to the Thetford user handbook.

CASSETTE TOILET

Fault	Remedy
Bowl does not drain when toilet is flushed. Cassette is overfilled	DO NOT REMOVE CASSETTE. While inside the motorhome turn flush knob anti-clockwise to open valve blade and leave it in the open position. Open access door on side of motorhome. Rotate pour-out spout outward. Place appropriate size container under spout cap. Remove cap carefully. Allow bowl contents to drain into container. This will lower the water level in the bowl. Replace cap and return pour-out spout to stored position. DO NOT REMOVE CASSETTE. Go inside the motorhome and turn the flush knob clockwise to close valve blade. Now, the cassette may be removed following the normal removal and emptying procedure.
Odours	Use proper amount of holding tank deodorant specified on bottle.
Soiled bowl after flushing	Partially fill bowl to cover soiled portion of bowl. Next flush will dissolve waste. Tip: Leave valve blade open during use.
No power to add water to toilet bowl	Check cassette safety sensor switch and fuse-holder for proper engagement and operation. Note: Cassette has to be removed to reach switch and fuse. Insert cassette and try adding water to toilet bowl. Toilet can be flushed manually. Add water. Add water to bowl from a separate container. Turn flush knob anti-clockwise to open valve blade. Turn clockwise to close valve blade.
Cassette cannot be removed	Check for obstacles under retaining clip. Depress retaining clip several times to check operation. Remove cassette. Flush knob and valve blade in partial open position. Close valve blade by moving knob clockwise. **CAUTION: If valve blade is open during cassette removal, severe damage to system can occur. Never force insertion or removal of the cassette tank.**
Valve blade mechanism sticks or is hard to open	Spray light film of silicone on blade.
Major unit malfunction	Contact your original Motorhome Dealer.

TV INLET

Depending on specification, the motorhome may be fitted with an external co-ax connection in place of, or in addition to, connections for a roof mounted TV aerial. The external co-ax connection point will be within the battery box (Escape models) or the mains inlet enclosure (Sundance, E400, Borero and E500 models).

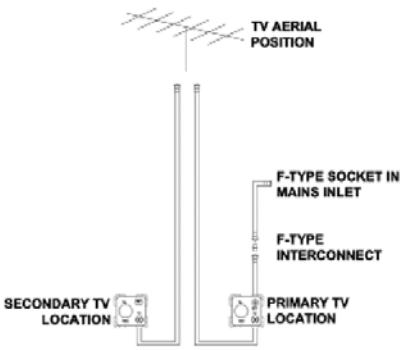


Co-ax connection within battery box

Within the battery box a White cover flap conceals a push-on type co-ax connection. A co-ax cable is fitted and connected within the motorhome from the back of this connection to the TV position within the motorhome.

An external TV aerial or site TV feed can be connected to the external connection point; signals from that connection will then be available at the TV position co-ax socket within the motorhome.

Co-ax connection point within the mains inlet enclosure

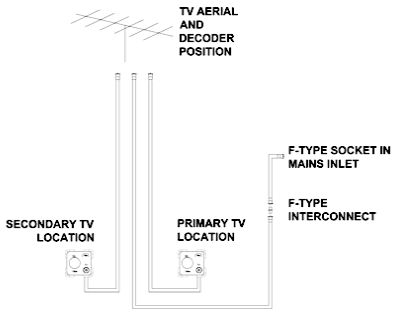


A short co-ax lead featuring a screw on co-ax connection will be present behind the Blue mains inlet connector. A co-ax cable will be fitted and connected within the motorhome, from the back of this connection, to the primary TV position within the motorhome. At the same time, further co-ax cable or cables will be fitted which route from a likely TV aerial position (i.e. within the wardrobe) to each of the TV positions within the motorhomes.

The primary TV position will feature a socket marked 12v, TV, and SAT. The co-ax from the external connection point will route to the socket output marked SAT, whilst the co-ax from the wardrobe or similar will route to the socket output marked TV. At any secondary TV positions, if present, the co-ax from the wardrobe will route to the socket output marked TV.

An external TV aerial or site TV feed can be connected to the external connection point; signals from that connection will then be available at the primary TV position within the motorhome. As the connections are of the screw-on type, it is also possible to use this co-ax to route from an externally mounted satellite dish, to a satellite receiver.

Co-ax connection point within the mains inlet enclosure, Satellite decoder position within the motorhome. (Kon Tiki and E700)



A short co-ax lead featuring a screw on co-ax connection will be present behind the Blue mains inlet connector. A co-ax cable will be fitted and connected within the motorhome, from the back of this connection, to the location intended for the later fitment of a

satellite decoder or similar receiver. At the same time, further co-ax cable or cables will be fitted which route from a likely TV aerial position (i.e. within the wardrobe) to each of the TV positions within the motorhome.

The external connection can be used to link a dish or external aerial, to the decoder / receiver position, and the co-ax leads from each TV point can then be used to link the decoder / receiver to each TV.

Depending on the type of decoder / receiver, it is possible that a modulator or similar component would be required to convert the output from the device (SCART or HDMI) into a signal that can be sent through co-ax cable.

WINDOWS

To open, turn knobs anti-clockwise and open catches. Swivel the window pane open to the desired position and close knobs clockwise to lock in the open position.

To close, reverse the operation.

All opening windows have two catch positions. The first position is for ventilation the second seals the window from ventilation and rain.

S2000 BLINDS (SEITZ)

Blinds and Flyscreens

Flyscreen and blinds operate in the same manner. The flyscreen can only be 'fully up' or 'fully' down, but the blind also has an intermediate position.

To operate, pull down by holding the fingergrip(s), gently ease towards the window to locate the catches. To retract, pull down easing away from the window to release the catches and guide to the required position.

- Only operate by holding the fingergrip(s) - pulling on one side will cause uneven running and snagging.
- Do not allow the blind or flyscreen to re-coil without control.
- It is not recommended that blinds and/ or flyscreens are left in the down position for long periods, or when travelling, as this can result in fatigue of the spring.
- Clean the cassette, side track and fabrics with mild detergent and water.
- Lubrication of mechanism or spring is not required or recommended.

For more detailed information, see manufacturer's instructions.

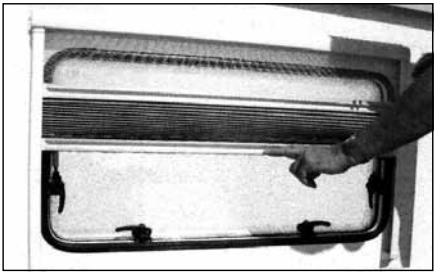
Cassette Blind and Flyscreen
Always hold the end rod in the middle. When closing blinds, slide the end rod of the flyscreen blind on to the end rod of the sun blind and engage. To open the blind push the end rods towards the darkening blind to the edge and disengage the end rods. Now move the end rod of the flyscreen back by hand - do not let it recoil.

Tensioning Seitz blinds and flyscreens
Seitz S2000 window blinds/flyscreens are pre-tensioned, it may also be necessary in the future to adjust the tension of these. Remove the left hand top corner cap. Adjust the lower screw for the blind and the higher screw for the flyscreen. Care should be taken not to over tighten the springs.

The spring in the Seitz cassette window blinds/ flyscreens are pre-tensioned. However, it may be necessary in the future to adjust the tension. The tensioning screw is positioned on the right hand top corner of the cassette. Firstly remove the plug then adjust by rotating the screw clockwise. Then replace plug.

The blinds should rewind without stopping or moving in a sluggish manner.

OPERATING INSTRUCTIONS FOR BLINDS (SOFTROLLO)



Closing: Grab the end bar in the middle and push the blind and flynet together or singly (blind - lower end bar) downwards until the required position is reached.

Opening: Push the end bar of the flynet and / or of the blind upwards.

Care instructions: Clean the blind only with a damp sponge. Clean on a regular basis to avoid dirt particle build up as this can damage the blind material. Use only water or with mild suds or a vacuum cleaner.

In order to avoid material fatigue, do not leave the flynet closed for a long time.

WINDOWS/ ROLLER BLIND ADVICE

In case of prolonged exposure to the sun roller blinds should not be completely closed as this could cause excessive heat concentration at the top of the window, due to characteristics of the glazing material the windows could be adversely affected.

Roller blinds that shade from the bottom upwards it is necessary to leave a gap of a few centimetres open at the top, this way the heat between window and blind can escape. A fly screen does not cause an obstruction.

Roller blinds that shade from the top downwards must be kept completely open, or be opened regularly to allow the heat to escape.

Keeping the windows in ventilation position allows heat to escape.

Never fully close a roller blind system when storing the vehicle or when not in use for longer periods!

Therefore for optimal window life it is recommended:-

- Blinds starting at the bottom of the window a gap should be provided for ventilation at the top with the window in its ventilation position.
- For vehicles containing blinds from the top downwards or with other types of reflective blinds / curtains, please make sure that these blinds are also ventilated or not fully closed.

Ensure that all windows and roof vents are closed when the vehicle travels on the road.

To adjust the tension of the Horrex blind:

In each corner piece there is an cord tensioner (see photo). By unscrewing the hexagon screw, the cord can move through the cord tensioner. When you pull the cord, the tension will get higher, when you let it move back the tension will get less.

ROOF LIGHTS

When opening the roof lights, care must be taken to release the locking mechanism as the unit is raised.

Roof lights must be fully closed when driving. Roof lights provide essential fixed levels of ventilation.

Mini Heki Rooflight
To open depress button and push bar upwards. The rooflight has two open ventilation positions and a fully open position.

The blind and flynet operate independently of each other and are engaged by connecting to each other and sliding.

Heki care instructions: Clean the blind only with a damp sponge. Clean on a regular basis to avoid dust/ dirt particle build up as this can damage the blind material. Use only water or with mild suds or a vacuum cleaner.

In order to avoid material fatigue, do not leave the flynet closed for a long time.

Midi Heki Roof-light

With operating bar: To open, depress button and push bar to required position. The rooflight has two open ventilation positions and a fully open position.

To close, reverse the operation and then check if locked into position.

With crank: To open, rotate the crank until a resistance is noticeable during the operation.

To close, reverse the operation and then check if locked into position.

Electric version: To open, push button until desired position is reached or the electric motor switches off.

To close, reverse the operation and then check if locked into position.

SKYVIEW OPERATING INSTRUCTIONS

Safety and care instructions

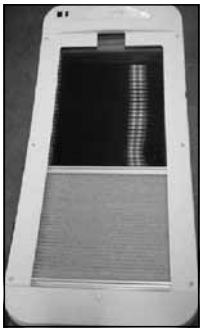
Before opening the dome please check if all handles are disengaged and no objects are in the opening area of the rooflight.

To open, turn the handle anti-clockwise to the required opening position.

To close, turn the handle clockwise until the dome lies on the seal and a resistance is noticeable.

Before you start your journey, close the rooflight by turning the handle to the closed position

Please make sure that no persons or objects are in the closing area of the rooflight.



Opening/closing the blind and fly net
Pull the end rod from the recessed part and push it in a position you desire. You can adjust the incidence of light with the second operating bar.

Safety precautions
Repairs should be carried out only by trained personnel. Inform an approved dealer in case of defects and malfunctions.

Before starting off, check the roof light for damage in the dome (tension cracks) and the opening mechanism which could arise owing to, for example, branches and other natural causes. Do not step on the screen.

Do not leave the vehicle with the roof light open (danger of burglary and water penetration).

Do not open in strong wind, rain or snowfall. Before opening, remove snow, ice, dirt etc. from the dome.

Malfunctions must be repaired by an approved dealer at once. Do not use caustic detergents (danger of tension cracks in the dome).

Before setting off close the dome and check the locking mechanism.

Avoid high speed (maximum speed recommended is 130 km/h). Do not close the blind more than 2/3 during the day (danger of heat build up). Before starting off, Open the blind.

Care instructions

Clean the dome with the Seitz acrylic cleaner.

Opaque spots and light scratches on the dome can be removed with the Seitz Acrylic Polish and the Seitz Special Polishing cloth.

Use talcum powder regulary (4 times yearly) to care for the rubber seals.

Clean the blinds only with water and mild soap suds or a vacuum cleaner.

The guarantee becomes null and void if the care and safety instructions are not followed.

BLIND AND FLYSCREEN

The blind and flyscreen operate Independently of each other and are engaged by connecting to each other and sliding.

Safety precautions:

1. Repairs should be carried out only by trained personnel.
2. Inform an approved dealer in case of defects and malfunctions.
3. Before starting off, check the rooflight for damage in the acrylic dome (tension cracks) and the winding mechanism which could arise owing to, for example, branches and other natural causes.
4. Do not step in the acrylic dome.
5. Close the roof light before starting off (check whether it is locked).
6. Do not leave the vehicle with the rooflight open (danger of burglary or from rain).
7. Do not open in strong wind or rain.
8. Before opening, remove snow, ice, dirt, etc. from the acrylic dome.
9. Malfunctions are to be repaired by an approved dealer at once.
10. Do not use caustic detergents (danger of tension cracks in the acrylic dome).
11. Do not operate whilst the vehicle is moving.

Care instructions:

- Please clean the acrylic panes with the Seitz Acrylic Cleaner.
- Stains and light scratches on the acrylic pane can be removed by using the Seitz Acrylic Polish and the Seitz special polishing cloth.
- Use talcum powder (4 times yearly) to care for the rubber seals
- Clean the blinds only with water and mild soap suds
- The guarantee becomes null and void if these instructions are not followed.

CARE OF LAMINATE TOPS, TABLES, FURNITURE AND DOORS

DO NOT use abrasives, chemically treated cloths or aggressive detergents as these may cause damage

DO NOT place hot objects on laminated surfaces i.e. tops, tables. Any temperatures 70°C and over will cause permanent damage.

Clean worktop surfaces, furniture and door fascias with a soft, slightly damp cloth, dry off with a soft cloth.

DOORS

In order to provide customers with the latest designs of door furniture it is possible, due to the use of natural wood, that warping may occur. This should not detract from the correct functioning of items fitted in the motorhome.

Information

During the normal travelling vehicle vibration and flexing may cause some of the furniture doors to become out of alignment.

For your convenience many hinges are adjustable.

SEAT SWIVEL (DRIVER/PASSENGER)

To turn the swivel, slide the BLACK lever rearwards and adjust to the required angle. Before driving off ensure the locking mechanism is fully secure.

SIDE LOCKERS

Some models are provided with exterior access locker doors. These are suitable for storing external equipment.

BUNK AND LUTON BED SAFETY

Where the sleeping surface is over one metre above floor level the following notices apply.

WARNING: Always ensure safety boards are located before entering the bunk.

WARNING: Use upper bunks for sleeping only, with the provided protection against fall out in position.

WARNING: Care shall be taken against the risk of fall out when the upper bunks are being used by children, especially under 6 years of age, these bunks are not suitable for use by infants without supervision.

Layouts with an over-cab bed (luton bed), access may be restricted when the lower bed (model specific) is fully extended at night time.

TABLES

Note: The free standing table legs have a positive locking mechanism. Care must be taken to ensure that, when folded, the leg which is closed first locks into the second position.

When engaging legs in down position the mechanism must be positively locked down.

CAUTION! When erecting the free standing table, be careful to avoid trapping fingers.

TABLE STORAGE

Tables stored in the table storage compartment must be securely clipped into place whilst in transit.

To avoid damage care must be taken when removing tables from their stored position.

SHOWER

When using the shower, always ensure that the shower door is fully closed thus avoiding water spray on unprotected areas.

12V READING LAMP

Warning: 12v reading/spotlamps generate high temperatures when in use, the body, lens/bulb may become very hot.

Never make directional adjustment in the direction of flammable materials i.e. Curtains, nets or blinds.

TRIGGER SHOWER HEADS

- Squeeze trigger to release water. Release trigger to stop. Twist trigger up to gain permanent water flow, lower to stop.
- Care should be taken as water may become hot temporarily when switched on until it mixes and regulates.
- Small children should be surpervised at all times when using the shower.
- We recommend unfastening the trigger shower head before travelling and storing safely to prevent it becoming detached whilst travelling.

OMNISTEP SINGLE STEP

Operation

The OMNISTEP is operated by the lever switch.

Important: when extending the step, hold the switch until the step is completely extended. Never mount the step if retracted of if not fully extended, because then the blocking is not working and the motor can be damaged.

Check if the step is retracted before departure.

Maintenance

Dirt and frost can prevent the step from operating properly. In this case the moving parts should be cleaned or defrosted.

All points of movement are layered in maintenance-free bearings.

In case of electrical failure

If the step does not retract by motor: Loosen the square connection according to fig. 5 (actions 1, 2 and 3), push the footboard in (4) and tie it to the frame.

Current drawn

5 A. When fully extended or retracted: 14-18 A

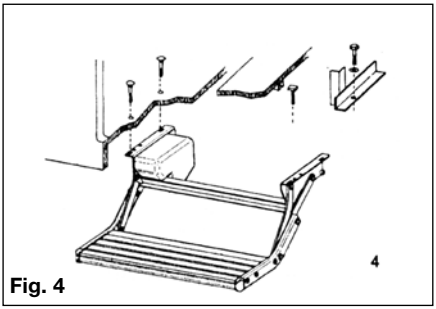


Fig. 4

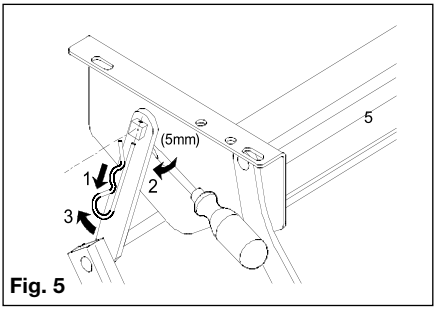
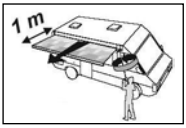
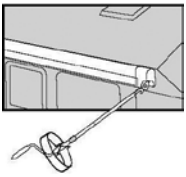


Fig. 5

FIAMMA F45S/TiL SIDE AWNING

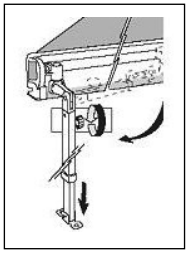


In order to avoid unnecessary strain on the awning as well as on the vehicle side, we suggest that the legs be extended about 1m from the opening.

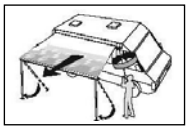


Unscrew the leg knob to slide the leg out of its seat.

Grasp the leg near its hingejoint and pull it in a horizontal direction.

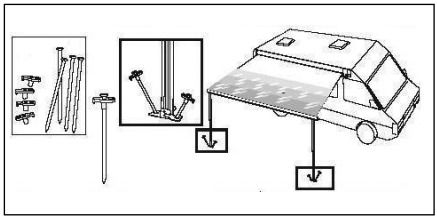


Lower the leg as shown in the figure.



After unrolling the awning completely, adjust the legs at the chosen height.

To avoid that the awning is lifted up by an unexpected gust of wind, it is necessary to secure the legs to the ground with the provided hooks. For greater safety, we strongly advise you also use some storm cords in the upper part of each support leg or anchor the awning with the Fiamma Tie-Down Kit strap.



If you want to fasten the support legs to the vehicle, put the terminals into the wall

brackets. The brackets can be fixed only in reinforced points.

Caution: Swift recommend that the awning be ground mounted only.

Side mounting brackets are supplied. But in inclement weather conditions may cause damage to the motorhome bodywork

Caution: The awning is a sun protection, please roll up your awning in case of rain, wind or snow.

Alternatively lower one side of your awning, so that water can flow away and assemble the tension rafter as shown in the figure (not included for all awning lengths).

Make sure that the awning perfectly rolls up: when it is, the red indicators on the front profile ends are no longer visible. A damaged fabric does not allow the awning to perfectly roll up. Never use the awning with a damaged canopy. Wash the canopy with Fiamma BRILL.

NOTE: In case of problems refer to the awning user manual or contact your dealer.

Suggestions for use and maintenance for the fabric of your awning.

Fiamma fabrics are made with PVC and Polyester layers and their properties can change in certain weather conditions.

For example, if you close the awning which has been opened in the sun for a long time, wrinkles can appear on the fabric.

In low temperature, the fabric becomes less pliable and there is a risk of cracks.

Please find here a list of some practical advice for the best and long lasting use of your awning:

1. Open and close the awning in normal condition of dampness and temperature (at night or in the morning) making sure the fabric has no sharp objects on it and is clean.
2. When closing the awning after a long period in the sun, wrinkles may appear and prevent the awning closing completely. In this case the security of the awning is not compromised, as the security winch will prevent accidental opening. If wrinkles appear re-open the awning and leave in the sun for some hours and the folds will disappear. Then of course you need to re-close the awning in normal conditions (see point 1).
3. Residual damp can cause spots on the fabric. If the awning has to be closed when the fabric is damp we suggest you re-open it as soon as possible to dry.
4. We suggest you avoid using the awning below freezing 0°C.
5. When closing the awning you should support the front bar.
6. Most of the dirt seen on the fabric will be superficial and can be cleaned with water and a cloth. Stubborn marks can be removed using a light detergent. Please do not use aggressive chemical substances and do not use high pressure cleaning tools.

COLOUR REFERENCE

The colour code for touch ups or resprays for all white Fiat/Peugeot cabs and Swift coach built habitational body componets is Fiat White 249. For Fiat/Peugeot cabs other than white, contact your Fiat/Peuget dealer or obtain a colour match.

Please be aware that colours can fade over time, and therefore, if the vehicle is more than a few years old, it is suggested a colour match be obtained.

Silver motorhomes do not have a specified colour code, and therefore, a colour match must always be obtained.

DROP DOWN TV MECHANISM

In some models, a drop down TV mechanism is used. Customers are reminded to engage both positive locks, on the underside of the TV mechanism before travelling. Failure to do so may result in damage of the TV unit or the TV shelf itself.

The inner dimensions (i.e. maximum TV size) for this unit is 336mm high x 390mm wide x 70mm deep.

CYCLE RACKS

The Swift Group allows the fitment of a two cycle rack to our motorhomes and we have made provision for fixing blocks for this purpose.

Due to the complex nature of a cycle rack, the different models available and the need to break into the habitation box (therefore, having a potential of a leak), we suggest this modification only be carried out by a competent person, ideally, a Swift Group dealer or Authorised Repairer.

Please be aware a cycle rack can not be fitted onto a model where there is a rear escape window. Contact your dealer for clarification if your van has a rear window.

TWIN LENSE REVERSE CAMERA SYSTEM

Depending on the specification of your motorhome, a reverse camera system may be installed. The system uses a pair of cameras mounted at high level on the rear of the motorhome, connected to an LCD screen which forms part of the rear view mirror, mounted on the windscreen. The two cameras give alternate views from the rear of the motorhome: A ‘close’ view, and a ‘long distance’ view.

The reverse camera system is powered whenever the vehicle engine is running.

With the vehicle in neutral, or in a forward gear, it is possible to switch the screen ON (using the power button on the mirror), and then using the V1/V2 button on the mirror switch between the two different views.

When reverse gear is selected (with the engine running) the mirror will automatically switch on (if not already on), and will display the ‘close’ image.

FITTED EQUIPMENT